ECONOMIC POLICY FOR SMART, INCLUSIVE AND SUSTAINABLE GROWTH

CONFERENCE PROCEEDINGS

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FOREWORD

The Europe 2020 strategy is based on three mutually reinforcing objectives: smart, inclusive and sustainable growth. To deal with the increasing challenges such as the aftermath of the Global Financial Crisis, climate change, energy issues and resource scarcity, Europe needs to reinforce synergies between these three goals. Therefore, it is crucial that all stakeholders strive to develop synergies and promote a more resource efficient, greener and more competitive economy.

Creation of such a long-term economic strategy was the overarching topic of the conference „Economic policy for smart, inclusive and sustainable growth“. The conference was organized on the occasion of the 80th anniversary of the Faculty of Economics – University of Belgrade, from 15th to 17th of June, 2017. The conference was opened by four renowned keynote speakers: Professor Branko Milanović (City University of New York and Luxembourg Income Studies), Professor Michael Cox (London School of Economics and Political Science), Professor Leszek Balcerowicz (Warsaw School of Economics) and Professor Giacomo Corneo (Free University of Berlin).

Conference has attracted significant number of papers, providing important insights into various growth issues in economics, business management and statistics. Therefore, these conference proceedings provide collection of some of the most important findings at one place, thus being interesting and relevant reading for academics, policy makers as well as business people. As such, the conference proceedings provide solid, evidence-based ideas on how to reach smart, inclusive and sustainable growth in the years to come.

The conference was attended by 189 participants from 16 countries, who presented 105 research papers covering contemporary issues in economics, business management and statistics. The programme consisted of two plenary talks and 105 presentations of contributed papers, selected by the Programme Committee, arranged into 13 sections. This proceedings volume contains a peer-reviewed selection of papers presented at the conference. We are grateful to the Programme Committee, Organisation Committee, the section chairs and the referees for their invaluable assistance and support in acquiring interesting contributions.

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ECONOMICS
FINANCING GROWTH, SOME LESSONS FROM ECONOMIC HISTORY

John R. Lampe*

Abstract: What lessons does the economic history of Southeastern Europe suggest for financing the revival and the sustaining of growth in the region following the Financial Crisis of 2008 and the subsequent decline in investment? This article examines the financial history of three economies across the century that ended in 1989, after two World Wars and the Cold War. Serbia, then Yugoslavia, Greece and Bulgaria each experienced periods of growth in the last pre-1914 decade, the 1920s, the late 1930s and the 1950s into the 1970s. This growth was supported, but not sustained, by domestic financing or the inflow of European and American capital.

Before the First World War, domestic central and commercial banks provided short-term credit and for Serbia undertook some industrial investment. Foreign loans to state governments supported first railway construction and then military and public spending. But defaults in servicing the loans placed first the Greek and then the Serbian and Bulgarian budgets under terms for repayment overseen by European Financial Commissions. European oversight in the 1920s promised new lending in return for austerity enforced by independent central banks and domestic currencies fixed at exchange rates to meet the new Gold Exchange Standard. Few loans were received, as the overvalued exchange rates served mainly to service wartime and prewar debts, to settle refugees, or for Bulgaria to pay reparations. Higher import tariffs to protect domestic industry helped textiles but hurt metallurgy except in Bulgaria, whose encouragement laws exempted imported inputs. But domestic banks in Zagreb, but not Belgrade, Athens and Sofia as well as Czech and Austrian banks for the western Yugoslav lands and West European banks for Bulgaria, stepped in with investment and credit. They stepped back during the Depression of the 1930s. Debt reduction helped state finances more than devaluations after leaving the Gold Standard. Yet the greater stimuli to the industrial upturn of the late 1930s were state investment in rearmament and a rise in domestic joint stock investment.

After the Second World War, US aid to Yugoslavia and Greece and some Soviet supplies to Bulgaria helped their agricultural sectors to recover. But the political concentration on investment in heavy industry slowed growth rates for the Yugoslav and Bulgarian economies by the 1970s. Subsequent reliance on Western bank lending fed inflation in Yugoslavia and then Greece while creating unserviceable debts for repayment there and in Bulgaria. In Yugoslavia, communal, then regional and finally enterprise banks fed the inflation. Greek inflation rose in the 1980s to support state credits public enterprises on the Yugoslav pattern. European bank loans had allowed investment to continue in Bulgaria as well until crises in debt service threatened them all with default by the second half of the 1980s. None of their central banks were able to restrain the domestic note issue that fueled further inflation.

Keywords: central and investment banks, exchange rates, foreign loans and debt, foreign aid

JEL classification: F3; Economics

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INTRODUCTION

The interest in restarting economic growth after the Financial Crisis of 2008 and the subsequent problems with foreign debt, for Greece in particular, suggest some comparison with the debt crises facing Greece and its neighbors by the late 1980s. The collapse of the Communist regimes and a new government in Greece soon followed. The common regional interest since then in promoting private enterprise and in meeting the standards of the European Union as “functioning market economies” suggests a longer comparison to the region’s experience in the foreign and domestic financing of the economic growth that did take place. The intervals of advance from the last pre-1914 decade forward were impressive if not sustained. But the statistical capacity to calculate the growth of entire national economies over time dated only from the 1930s.

By 1937, as the Ekonomski Fakultet opened its doors in Belgrade, the new calculations of national product or income by Simon Kuznets and others were allowing us to measure the present or past growth (Kuznets 1966). Until then, first foreign trade and then state budgets and the supply of money had been the only available indicators of growth, joined in the 19th century by industrial production. Facing its contraction and unemployment in the Great Depression, the first reaction of Europe’s economic policy makers in the early 1930s was to stand by the monetarist assumptions of the 1920s. But stable currencies and balanced state budgets guarded against inflation, not deflation, and reduced wages would not increase employment absent demand. This austerity only reduced investment and protective import tariffs failed to revive domestic industry. By 1937, the anti-monetarist Keynesian ferment was rising in favor of fiscal financing and foreign debt relief. Now, since the Financial Crisis of 2008, the same ferment has again come forward to challenge the market mechanism and its standards for financing investment and servicing debt. In his recent, largely economic history, Europe since 1989 (2015), Philipp Ther indicts neo-liberal monetarism for the ills of Central Europe and what he calls the new Eastern Europe, Southern Europe.

I have already disputed any post-2000 extension of the anti-inflationary Washington Consensus into this region’s recent decade in Embracing Democracy in the Western Balkans (Cohen and Lampe 2011). Predominating in international financial institutions after 2000 was a Post-Washington Consensus for reform in public administration and fair competition in private enterprise, a public-private nexus also informing the EU chapters for accession. Despite the 2008 decline in foreign direct investment, my 2011 hopes for an still promising economic transition counted on small and medium-sized enterprises and on a social transformation led by an ascending middle class. Milica Uvalić was also hopeful about the prospects for domestic industrial policy in Serbia’s Transition, Towards a Better Future (2010). By 2017, neither of these hopes for sustainable and inclusive growth has been realized in Serbia or the rest of
the Western Balkans. Servicing its foreign debt remains to challenge Greece and its European creditors. What can the region’s economic history tell us about the private and public, domestic and foreign roles in financing growth?

This article deals with past growth and its shortcomings from the later 19th century to 1989. I draw on the three chapters on banking and finance across this long period that I just completed for the Handbuch zur Geschichte Südosteuropas, forthcoming from Regensburg’s IOS Institute (Lampe 2017). Here Greece and Bulgaria are compared to Serbia/Yugoslavia, leaving Romania and Albania to my IOS chapters.

I am writing not only as an economic historian but also as one of those old American Friends of Yugoslavia, as we were called well before the debt relief of the 1980s. Indeed, I arrived in Belgrade as a young Economics Officer at the US Embassy in 1965, just as Larry Eagleburger and David Anderson, the later authors of the debt relief, were leaving. They were the first two of the five last American Ambassadors to Yugoslavia who had served here as young Foreign Service Officers. Another one, Warren Zimmerman, had just arrived with me.


There as in my dissertation, I paid special attention to finance and banking along the lines of my Wisconsin mentor, Rondo Cameron. He in turn was following the approach of Aleksander Gershenkron (1962) to explain German and continental industrialization by going beyond the financial model for the initial English Industrial Revolution, where foreign trade capital was invested in local banks whose short-term credits covered the low-entry costs of textile manufacture. Nineteenth century machinery, metallurgy and chemicals demanded long-term investment. For Gershenkron, the German Kreditbanken had played that role, while state financing was needed in a less developed economy like Tsarist Russia. I found a bank role for Serbia as Cameron’s other students did for Italy and Spain (Cameron 1992).

Turning to the mainsprings of more recent growth, two lessons stand out from the classic case of sustained Western European growth in the so-called Golden Age from 1950 to 1973. First, rising productivity added one third to the increases in Gross Domestic Product from their growing quantities of labor and capital, a far larger fraction than in Eastern Europe. The composition of productivity as a residual goes beyond
technology transfer and market access to enabling institutions, educational, financial and public. Alan Milward (1984) emphasized responsible public administration, local and national, as a crucial prerequisite in the postwar recovery of the West European economies. Second, foreign trade turnover across the Golden Age rose at twice the annual average of 4 percent for GDP (Eichengreen 2007). After an initial stimulus to integration from the joint coordination of Marshall Plan funding, reinvested profits from trade growing under the European Economic Community helped to finance growth.

For finance and banking, a neglected subject before 1989 except for Greece, there has been a recent revival in the region and indeed in Europe and the US. The domestic currency and exchange rates, central and foreign banks, and state finance ministries and foreign lending have received new attention. The central banks of Austria, Bulgaria, Greece, and Romania published a volume of analysis and statistics that included chapters on their countries and also Austria-Hungary, the Ottoman Empire, Serbia and Yugoslavia and Albania (Southeast European Monetary and Economic Statistics From the Nineteenth Century to World War II 2014) Only in Bulgaria has new publication addressed the postwar period to 1989 as well (Avramov 2008, Vachkov 2008, Nedylakov and Dimova 2009). For the interwar period, new domestic work has also appeared on Greece (Dragoumis 2004, Christolakis 2013) and Yugoslavia (Nikolić 2003, Becić) and most recently for the period surrounding the First World War for Yugoslavia and Serbia (Vujačić and Arandarenko 2015).

FOREIGN FINANCE AND DOMESTIC BANKS BEFORE 1914

Well before 1914, Greece’s experience with foreign borrowing and debt service had already established a reputation for needing international oversight. The Greek government led the way in borrowing from the West European capital market, first for railway and other infrastructure investment and then for debt service, public administration and the military. After costly defeat in an attempt to take Crete from the Ottoman Empire in 1897, Greece was obliged to default on servicing some five new loans it had obtained only at low effective rates during the 1880s. Like the Ottoman Empire in 1881, revenues from its state budget were tied to debt service under the supervision of the same sort of European Debt Commission. Further loans were banned until gold reserves would support gold notes and exclude the silver notes whose unsupported issue, or seigniorage, taken in forced state loans to service its debt in depreciating silver drachma until 1897. After financial restraint under the new leadership, a Hungarian immigrant George Streit, the National Bank of Greece was allowed to issue new gold-backed bank notes and obtain new loans only in 1910. By then, however, the Greek reputation for reckless borrowing and currency depreciation had been established and would continue. So had a fateful feature of the pre-1914 Gold Standard for all of the independent Balkan states. This was fixed parity
with the French franc for their currencies rather than a market rate of exchange, a
precedent for parity that would risk overvaluation in the 1920s and again for Greece
since 2001 under the Euro.

Early in the pre-1914 period, first Serbia and then Bulgaria had also defaulted on
their European debt service and faced the same sort of European Debt Commission
with claims on state budget revenue. By 1895, Serbia's had borrowed two thirds of
the huge Greek total and at equally low, 70 % effective rates. Then the obligation for
short term repayment, running at one third of budget revenues, was restructured to
the same sort of medium-term extension provided by the Friends of Yugoslavia in
the 1980s. The debt commission for Serbia included only two European represent-
atives with four from Serbia. Its claims were confined to the income from the new
State Monopoly Commission. A harder bargain might have been drawn if Vienna
had not passed on its chance in 1883 to buy controlling shares in the new Serbian
central bank, the Narodna Banka. Also helping Serbia were the large trade surpluses
generated by its grain and livestock exports that Greece lacked. They were largely re-
 sponsible for the region's highest annual growth rate in per capita GDP for the period
1870-1913, just ahead of Bulgaria but half again Greece's .9 percent. (Carreras and
Josephson 2010). Then lack of Habsburg financial leverage allowed Serbia to contract
two large French loans during the tariff war and proceed ahead with a gold-backed
currency equivalent to the French franc. Still, debt service was taking over one quar-
ter of the state budget. Political success in bargaining for Great Power, read Western
economic support against Central Europe made its first appearance in Belgrade. But
recall that it was the restoration of access to the Austro-Hungarian market in 1911
that prompted the largest prewar growth for industry and exports, thereby swelling
the state budget and reducing the share of debt service.

State initiatives in Bulgaria and bank investment in Serbia began to support the in-
dustrial growth that would make their economies less dependent on agricultural ex-
ports. Bulgarian borrowing in the 1890s for railway construction and --- bad harvests
late in the decade forced default on servicing and an agreement with its own Euro-
pean Debt Commission by 1902. Here there was no Bulgarian majority and the levy
on the state's sizeable tobacco revenues was strictly enforced. Annual debt service
was reduced to less than 20 % of state budget expenditure, well under Serbia's 27 %.
And under the authority of the state's central bank, the Bulgarska Narodna Banka,
the restraint in silver issue proceeded more rapidly than elsewhere in the region. By
1906, par for gold-backed leva with the franc had reopened European capital markets
to Bulgaria. Large new loans as Serbia received would have to await the Balkan Wars
and the same diplomatic calculus. Loans came in 1913-14 attached to German and
Austro-Hungarian political support against French-supported Serbia. And like the
loans to Serbia, most went to debt service, public administration or military expens-
es. In Belgrade and Sofia, as well as Athens, public employment was one quarter of
the total, well ahead of industrial labor. And for military suppliers were dealing with one customer, the state, its monopsony discouraging growth just as monopoly.

For the last prewar decade, however, the Bulgaria government launched a major initiative to support industry with its encouragement laws to provide tariff and tax exemptions to enterprises having a minimum requirement of workers and mechanical horsepower. Already in 1895, officials and academics in Sofia had formed the Bulgarskoto Ikonomichsko Druzhestvo in order to promote industrialization on the Japanese model. By 1911 it had 300 members. Applying to three quarters of industrial enterprises, its encouragement laws plus protective tariffs for finished goods were boosting sales if not profits. Although the combined subsidies amounted to less than 5% of industrial investment, they may be regarded as the first appearance of industrial policy in the region.

In Serbia, where the ruling Radicals were bound to support from their peasant majority, they provided such rebates but did not encourage enterprises to take advantage of them. And few did. Also, there was no organization for such advocacy as in the Bulgarian case. Serbia’s Industriska Komora was established only in 1911. For Serbia, as my doctoral research revealed, a dozen domestic joint-stock banks in Belgrade stepped forward in the absence of a dominating central bank as in Bulgaria or Greece. It was their investment, credit facilities and sometimes entrepreneurship, as in the case of Milos Savčić’s Prometna Banka, that allowed Serbian industry to respond to the agricultural export restrictions of the tariff war. Sending processed meat out through Salonika or even across Austria-Hungary to Germany was the most striking success.

Elsewhere, in the two imperial borderlands, only one set of state initiative was taken to advance growth in industry or agriculture beyond railway construction. This was the Austro-Hungarian program that Peter Sugar (1966) called the industrialization of Bosnia-Herzegovina. There were nine projects undertaken but with limited results despite a fast start in the 1890s. The long ruling Habsburg Ban, Benjamin Kallay, did not allow foreign investment. Sawmills, coal and iron mines plus military construction and infrastructure predominated. So did Croatian management in public administration. State employment in Sarajevo far exceeded industrial labor as it did in the Balkan capitals. Two economic initiatives are still worth mentioning. The iron and coal mines at Zenica revealed large deposits, but there was no effort to use them for metallurgical production. They were being held in reserve for later Hungarian use. The most successful of the projects was agricultural, the egg-packing at Velika Kladuša, distinguished by its female labor force and by starting the enterprise that became famous, then infamous in the 1980s as Agrokomerc.
INTERWAR FINANCE FROM RECOVERY TO DEPRESSION

The interwar period started with the five independent states that now comprised Southeastern Europe struggling with wartime damage, forced migration, domestic inflation, all with little external assistance and within a new set of borders. They ignored the pleas of John Maynard Keynes “grand scheme for the rehabilitation of Europe”, an agreement to restore basic lines of credit and thereby avoid a vicious circle of economic crisis, political instability and diminished credit worthiness (Skidelsky 2003). The victors demanded instead the full repayment of wartime and also prewar debts. This insistence kept the door largely closed to Western capital markets. There was no flow of capital to governments whose economies’ surplus labor nonetheless went to Western Europe, preventing any of the Factor Price Equalization that raised low domestic wages as investment flowed into pre-1914 Scandinavia (O’Rourke and Williamson 2000).

The most common financial benchmark for the 1920s has long been the British adoption in 1924 of the 1914 dollar exchange rate for the gold-backed Pound. This famous overvaluation, dubbed the Golden Fetters by Barry Eichengreen (1992), slowed Britain’s difficult postwar recovery even more while preserving London’s financial standing. Meanwhile exports suffered and only protective tariffs could reduce imports.

For our region, its financial benchmark for the 1920s was already in place by 1922. This was not an earlier Washington Consensus but what Harold James (2001) has called the Genoa Consensus. It came from the 1922 Genoa conference of 29 state delegations. Convened and dominated by the Bank of England, neither France or the US attended. The Bank’s Governor Montague Norman presented

His proposal to restore creditworthiness for new loans to states owing debts to Britain and France after their currencies met a revised gold standard for convertibility. Norman ignored the proposal from the uninvited Keynes to make other currencies immediately convertible for Pound or franc debts at their current low but post-inflation market rates (Skidelsky, 2003). He argued that loans from the US Federal Reserve would help these currencies to increase their exchange rates gradually. Instead the conference adopted Norman’s proposal for a new Gold Exchange Standard.

This Genoa Consensus usefully urged the region’s central banks to establish their political independence from the state budgets that had fed the post-1918 inflation. They could then build up the reserves in Pounds or later francs as well as gold so that their currencies would be convertible under the Gold Exchange Standard. They would thereby become attractive to new lenders or old debtors. But when the Bank of England greatly overvalued the pound in 1924, this precedent pushed other central banks to restrict more issue and ration credit in order to meet the new standard and attract new state loans or debt relief. Our region’s governments received some relief later in the 1920s but no new loans except for refugee settlement (Lampe 2017).
At the same time, to compensate for the increased imports encouraged by overvaluation, they all passed protective tariffs. This further discouraged their international trade, already limited by more expensive exports. At least for Bulgaria, its tariff exemptions under expanded encouragement laws allowed its manufacturers access to essential imported inputs.

Greece and also Bulgaria desperately needed refugee loans that were forthcoming only in 1924 and 1928, when their currencies had been pegged over the going market rates in order to be recognized as meeting the new standard. Postwar Greece soon forfeited its wartime reputation for maintaining a stable drachma until 1918. Forced loans swelled note issue from the National Bank of Greece to support its prolonged military advance into Anatolia. By the time the campaign ended in defeat and a flood of refugees arrived in 1922, the drachma had fallen to 9 percent of its 1918 exchange rate while inflation soared and state budget expenditures were one and a half times revenue (Christolakis 2013). The pre-1900 reputation as a poor risk for foreign loans returned. Only in 1927, after extended restriction of note issue and with the promise of a separate central bank could the drachma join the Gold Exchange Standard at an overvalued 6.9 per cent of the prewar franc. Bulgaria faced the special obstacle to new lending posed by reparations, the one regional economy to face them. Just to reduce payments in 1924, the new Bulgarian government had to agree to a harsh demand from the League of Nations International Financial Committee: It was to restrict the state budget and note issue enough stabilize the leva for the Gold Exchange Standard above its going market rate. One positive feature was the establishing of the independence of the central bank from the state budget and the Finance Ministry, as urged by the British leadership of the Financial Committee.

Yugoslavia agreed to accession in 1926 at the highest rate compared to the prewar franc equivalent of 8.9% in order to obtain the final tranche of the larger of the only two postwar Western loans it had been able to obtain, the Blair Loan from New York in 1922. Even then the Yugoslav Finance Minister, Milan Stojadinović, had been pursuing the necessary restraint since 1924, cutting note issue from the central bank by one third and keeping its discount rate above 10 percent. The resulting shortage of capital reversed early postwar growth for both agriculture and trade (Lampe 2017). Protective tariffs compensated textiles but hurt metallurgy and other sectors depending on imported inputs.

Domestic and foreign banks did however step in to relieve the Yugoslav capital shortage and provide the credit and investment for industry that Gershenkron had called crucial in German economic development. Domestic banks in Zagreb and Ljubljana supported enterprises in Slovenia and Croatia-Slavonia, projects also backed by credit from Vienna’s Credit-Anstalt and direct investment from several Prague banks. Serbia was neglected until 1931 when the primary Czech creditor, the Živnostenska Banka, finally backed an investment in the Baťa shoe factory at Borovo. -- The Na-
tional Bank of Yugoslavia in Belgrade favored Serbian industry with discount rates and credits and faced little demand from Zagreb and Ljubljana until their investment banks were brought up short by the Depression of the 1930 (Lampe and Jackson 1982).

For Bulgaria and Greece, investment banking was less important than for Yugoslavia (Lampe 2018). In Sofia, a set of seven new foreign banks provided credit if not much investment that supported food production and made up for the slump in tobacco demand in 1926, a sector that had grown up around Plovdiv before the war and then greatly expanded with wartime German demand. For agriculture, however, the Bulgarian Agricultural Bank and a network of cooperative banks provided credit that helped its production to grow faster than the modest increase for industry in GDP for the period 1923-29, just the reverse of Yugoslavia’s experience. Meanwhile the predominant National Bank of Greece showed little interest in industrial investment. Long-term credits from the League of Nations Refugee Settlement Commission supported the expansion of tobacco processing and textile production by refugee entrepreneurs in Thessaloniki and northern Greece. Early postwar shipping profits allowed their owners, including another refugee, the post-1945 magnate Aristotle Onasis, to start shipbuilding in the south.

Then as the Great Depression descended, a conference of all the regional states did meet in Athens in 1930 to discuss a customs union in the face of falling prices for agricultural exports and European demand. But when the representatives saw that only 9% of their exports went to each other, the project was abandoned. The recent conference in Sarajevo debating a customs union for the Western Balkans could at least point to a much higher percentage.

After 1930, both Greece and Bulgaria pressed instead for the international assistance needed to continue paying their debt service under exchange rates fixed by the Gold Exchange Standard. The Venizelos Government in Greece asked for another loan from the Leagues of Nations or one from the new Bank for International Settlements. Both refused, and Greece defaulted on its debt and left the Gold Exchange Standard in 1932 in the wake of the British departure. Bulgaria at least received some reduction in reparations payments thanks to the Hoover Moratorium and also from a reduction in interest on the two League loans. But it had already been forced to default on debt service that still included the pre-1914 French debt and then decided to leave the Gold Exchange Standard. Controversy continues over whether departure, subsequent devaluation or the eventual reduction of debt service promoted the later economic and especially industrial recovery. A direct stimulus would support the current argument against the present neo-liberal monetarism recognizable in the Gold Exchange Standard. Instead, the cut in debt service seems to have counted for more.

Greek trade and budget deficits did decline after departing the Gold Standard, but there was no significant upturn in growth until after debt servicing was reduced (Ma-
zower 1991). Only in 1936 did a series of debt negotiations reach a temporary agreement to cut interest due by 40 percent, allowing Greece to join Britain's stabilizing Sterling Bloc. Also, while industry grew by 6% a year for 1937-39, it was boosted by wage cuts rather than modernizing technology transfer for large firms. Smaller enterprises grew through increasing incorporation. The Bulgarian experience also supports the recent conclusion in the new *Cambridge Economic History of Modern Europe* (Rischl and Staumann 2010) that doubts any consistent connection between departure and recovery, doubts shared by recent Bulgarian as well as Greek scholarship. Depreciation cut the leva's exchange rate by 60%, even more than Greece's, while the export loss from declining agricultural prices cut budget revenues by one third by 1935. Only with the subsequent agreement to reduce its foreign debt service did industrial growth revive to an annual rate of 5%. Recent Bulgarian scholarship on its financial history in the 1930s focuses instead on the continued authority of the League's Financial Commission to oversee the activities of the Bulgarian National bank, even to appointing its Director (Nedyalkov and Dimova 2009). At least this oversight facilitated the sort of reduction in debt service that the EU’s Cooperation and Verification Mechanism has not been willing to pursue.

At the time, however, and in light of the financial regime that Bulgaria would face after the Second World War, it seems more important for me to address the rising role of the state in the late 1930s recovery. It was significant for Bulgaria and even more prominent for Yugoslavia, where its 15% of industrial production was the region’s largest. And everywhere, investment in rearmament was the leading stimulus. Some arms were imported, especially tanks and planes, although mostly Czech and French rather than German. Domestic manufacture nonetheless advanced as well. For Yugoslavia, its concentration in Serbia and Bosnia did not persuade Croatian and Slovenian interests that this was done for strategic reasons. The actual removal of two Slovenian metal works to Serbia was particularly resented. In any case, the stimulus for sustained growth in selling to a single buyer was limited, let alone diversified product development in selling to a single buyer. Monopsony provides no smart stimulus to sustained let alone inclusive growth.

Monopoly also discourages smart growth by limiting entry and discouraging innovation. Pre-1989 economic historians from the region like Liuben Berov paid useful attention to the price cartels of the 11930s. Although they often did not last for more than a few years, cartels in the metallurgical, construction and food processing sectors of Bulgarian and Yugoslav economies accounted for almost as much of industrial production as the state share, more than for Greece if less than the one quarter for Romania. In Bulgaria, state supervision of cartels led to permits for approved entry by 1933, followed by a state merger of a dozen domestic banks in Sofia in 1934. Although there was no overall economic plan, the pattern for the postwar concentration of economic authority made further progress in Sofia than elsewhere in the region (Daskalov 2004).
For the post-1989 period, it is more encouraging that joint-stock incorporation spread in Bulgaria and Yugoslavia as well as Greece in the 1930s. Under new or newly enforced commercial codes, their presence cut into cartelization and promoted capital deepening. So did the foreign direct investment that seemed so promising after 1989 and until 2008. It did decline during the 1930s but French and British predominance continued thanks to their copper, lead and zinc mines. Yet the ore was all exported until a copper smelter was built at Bor in 1938. Major forward linkage to provide one third of Yugoslavia's steel production did come from smelting at the German-sponsored Jugočelik complex at Zenica. Overall, however, the previously exaggerated German share of direct foreign investment in Yugoslavia was only 9%.

FROM FOREIGN AID TO FOREIGN BANK LOANS AND DEBT. 1945-1989

For the postwar period up to 1989 foreign direct investment playing no role even for Greece. Supporting the significant growth in the Greek and Yugoslav economies through the 1960s were a common set of stimuli, from growing export markets to an increasingly large and educated labor force. Financing much of this growth was the foreign aid missing after the First World War. And for the first post-1945 years in Bulgaria, Soviet deliveries of grain relieved shortages from two bad harvests while tractors and locomotives aided collectivized agriculture and public transport. Tobacco exports covered part of the import surplus.

By the early 1960s, US assistance to Greece and Yugoslavia had each amounted to $3.7 billion in aid and soft loans. Although US aid to Greece was initially intended to support industrial recovery, it soon shifted to agriculture as in Yugoslavia from the start. US aid gave Greece more tractors than Bulgaria by 1952 and sent crop experts to help end the long dependency on grain imports. A British-installed Currency Committee from 1946, then reconstituted with only domestic membership, continued to monitor the balance of payments and also the note issue of the Bank of Greece, thus restraining inflation (Lykogiannis 2002). US food aid to Yugoslavia relieved a threatening domestic shortage in the early 1950s that allowed the Tito regime to abandon collectivization and ignore support for the small private holdings left in its place. But when pressing for assistance on its balance of payments by the mid-1950s, the Yugoslav side responded to US insistence on a reduced number of industrial investments by allowing each republic to keep its commitment to heavy industry. The spread of these high capital and low labor projects, later into Kosovo as well, was not "smart growth". Still, successful Yugoslav compliance and completion of later US-funded road and infrastructure projects established a reputation that would allow Yugoslavia to draw on $4.1 billion of low-interest World Bank loans from 1960 forward (Lampe, Pricket and Adamović 1990).

By the end of the 1960s the financing of Yugoslav industrial growth had already been through three phases. Until 1960, despite the absence of the Soviet-style central plan-
ning that prevailed in Bulgaria, the Belgrade ministries and the four large state banks in Belgrade provided credit and investment capital. Conscious of avoiding the inter-war tilt toward Serbia, they paid due attention to all of Yugoslavia’s republics. Then in 1961, the enterprise Workers Councils were empowered to divide net profit between reinvestment and wage bonuses. Bonuses were favored and investment neglected. To compensate for the lack of investment and favor the authority of local LCY leadership, a series of communal banks were allowed to open. Soon there were 380 of them, authorized to provide short-term credit to local enterprises. But, as I could see when I visited one in Niš in 1965, repayment was regularly rolled over. This disguised long-term lending, uncoordinated from Belgrade, fed the inflation that the wage bonuses were also prompting. Under the provisions of the 1965 *Ekonomski Reforma*, a set of 30 regional banks that replaced the communal banks. This new second tier of a banking system, one that still included the large Belgrade banks, was intended to grant loans to deserving enterprises across Yugoslavia. In practice however, the regional banks supported the same republic interests that were increasingly taking over the LCY. The reform’s promise of opening to foreign direct investment was not met. Nor was inflation cut back or the opening of a stock market seriously considered (Lampe 2000). My prediction in a 1965 airgram of a convertible dinar by 1970 did not have a chance. Still, the rise in Western trade, especially with Italy, and the income from tourism and remittances kept the current account in reasonable balance. Profitable enterprises in the production of consumer goods and undertaking construction projects in the Third World, both earning good reputations, balanced the enterprises operating at a loss in heavy industry, as they were in Bulgaria.

By the 1970s, the high rates of industrial growth in Bulgaria as well as Yugoslavia and Greece, over 6% a year though the 1960s, had begun a decline that would accelerate in the 1980s. For Bulgaria, its turn from budget subsidies to bank credits had been foreshadowed by loans from Soviet-affiliated banks in London and Paris to cover a Bulgarian trade deficit by 1961-62, mainly for West German machinery imports. Only the secret sale of Bulgaria’s entire gold reserve to the Soviet Union closed the deficit by 1964 (Avramov 2008, Nedyalkov and Dimova 2009). A new Foreign Trade Bank and a State Investment Bank were then created to manage credits for Western trade. Criticized for non-performing loans, both were then absorbed into the Bulgarian National Bank. By 1975, the BNB was providing some 54 percent of enterprise credit as state subsidies fell to 16 percent. Now with a seat on the Council of Ministers, the bank’s more independent financial judgment struggled with the State Planning Commission and its new ministerial confidence in econometric, computer-led central planning. Light industry benefitted from BNB credits; heavy industry made little progress with budget subventions.

Bank lending was more important in Greece than Bulgaria into the 1970s but just as dependent on a single tier. The long predominant National Bank of Greece plus two others accounted for 70% of bank assets and their long- and short-term lending for
an even larger share. No foreign banks were allowed to operate. Although Greece had the region’s only stock market, its small size and the reluctance of family firms to incorporate made bank credit more important. The Bank of Greece and the Currency Committee had kept inflation under control through the 1960s with a reserve requirement of 20% on deposits for all banks. Then, the Colonels’ military regime, seeking public approval in the face of growing criticism, pushed the Bank of Greece to lift the reserve requirement and also restrictions on consumer credit on housing loans (Halikias 1978). With the first oil shock of 1973, the rate of inflation jumped to 27% by the following year, surpassing the rate for Yugoslavia. The successor Karanlis regime and its new BOG Director, Zenophon Zolotas, set targets for currency in circulation but inflation had resumed by the late 1970s.

Then in the 1980s, Greece and Bulgaria joined Yugoslavia in relying on foreign bank borrowing to support state investment in industry and public administration. The failure of these efforts are well known for Yugoslavia, first anticipated by Harold Lydall when I and the Western majority were hoping that a single national economic interest could overcome political party and republic interests. The Bulgarian and Greek failures are less well studied but important for suggesting some common lessons from this fateful decade.

Recent Bulgarian scholarship takes us through the two new crises in Western debt repayment in the 1980s that the reforms of the New Economic Mechanism in 1979 failed to prevent (Avramov 2008; Vachkov 2008). Its terms opened the way to “self-financing”, enterprise credits that nearly doubled to 45 percent of the total by 1980. Bank credit fell back and state subsidies rose, both to account for 28%. The personal responsibility of enterprise management for profit and loss in a smaller number of increasingly large enterprises was supposed to justify the new financial system. A new Mineral Bank was opened to attract Western credits. But to pay for swelling debt service by 1980, the Soviet Union stepped in for one last time to provide oil for Bulgarian re-export. After international pressure forced an end to the practice in 1984, a renewed payments crisis descended by 1986. Facing a Western debt of $10 billion, the Zhivkov regime devalued the long overvalued lev in hopes of raising exports. Again it tried to create a two tier banking system. The Bulgarian National Bank was allowed to abolish or reschedule half of its domestic debt as non-performing loans. Its large number of branches were also cut in half. Seven new specialized banks joined the Bank for Foreign Trade in granting credit on Western-style commercial terms. But nothing could be done about closing the loss-making enterprises or servicing the foreign debt before the political crisis of 1989 swept away the regime itself.

The Yugoslav and Greek economies faced larger foreign debts, $20 billion apiece, and also the ascending inflation that Bulgaria did not. Neither of them could not overcome the same financial burden of loss-making public enterprises. A comparable and reliable record of their struggles in the 1980s maybe found in the detailed
annual reports they were required to submit as members of the Paris-based Organization for Economic Cooperation and Development. The OECD Economic Surveys are particularly valuable for Greece, given the greater attention that US and British economic analysis paid to Yugoslavia at the time (OECD Greece 1989-90, Yugoslavia 1987, 1988-89).

This sad story began earlier and ended with Yugoslavia’s party and political dissolution aborting belated economic reforms. In what Harold Lydall (1989) called “the great reversal”, economic growth (real GDP per capita) fell by an annual average 5% for 1979-85. It had risen by annual average of 3 percent through the 1970s despite increasing inflation and what Susan Woodward (1995) called “socialist unemployment”. By 1979, the trade and current account deficits had doubled while the net foreign debt had tripled. Reduced imports in 1980 brought down the trade deficit but the only way to continue investing in domestic and export industry was more foreign borrowing. The debt jumped from $14 to $19 billion. The several US banks who had been the primary lenders now refused several requests for more funds. Enter the American Ambassador David Anderson and his Crossroads Cable to Washington asking for official assistance. Deputy Secretary of State Larry Eagleburger led the way in assembling “The Friends of Yugoslavia”. Western support for the two loans of 1983 and 1984 extended the repayment and reduced the interest rate on debts to the Paris Club of official lenders. In return Yugoslavia was obliged to accept IMF monitoring to assure repayment. With the failure of inflation to abate came the unfortunate IMF decision to tie its further stand-by lending to an interest rate 1% above the rate of inflation. This decision helped make new investment credit prohibitively expensive and helped the republic party opponents of monitoring. So it was Bye Bye Stand-By, as Belgrade newspaper headlines dubbed the departure from IMF monitoring in late 1985. An effort to provide new Western support soon failed in the face of soaring inflation and failed political reform. (Lampe, Prickett and Adamović 1990) The lack of enterprise accountability was finally addressed ___ by the 1989 reforms of Ante Marković, but they came too late. But the IMF and also the World Bank did not forget the problems of such large social enterprises, setting the stage for their recent emphasis on on replacing them in Serbia by “structural reform” or “right-sizing”.

Now, because of Greece’s current debt crisis, its own scholarship has begun to revisit the 1980s looking for origins (Dragoumis 2004). And origins there surely were. Greece’s foreign debt was still modest in 1979, barely $5 billion, just as the long efforts of the Karamalis government to join the European Economic Community had finally succeeded. Bringing down inflation was a high priority for taking advantage of the new trade opportunities. But just as membership was to take effect in 1981, the new PASOK government under Andreas Papandreou took power. Its aim was to expand employment by converting some larger private firms into social enterprises on the Yugoslav pattern and creating an Industrial Reconstruction Organization to protect some 250 smaller ones from bankruptcy. And expand employment it did, accompa-
nied by real wage increases of 10% by 1982 with union contracts to promise more. The funding for this wage bill and the larger employment in public administration came from what was called the Public Sector Borrowing Requirement. In the absence of tax reform, little was left for new investment. By 1985, unsecured PSBR borrowing accounted for 31% of enterprise credit and 18% percent of GDP. An EEC loan for $1.75 billion and a devaluation of the drachma in 1987 halved the inflation rate of 25 percent and nearly eliminated the current account deficit. But the regime’s dismissal of the Stabilization Minister, Kostas Simitis, brought back high inflation and pushed the foreign debt past $20 billion by 1989.

CONCLUSION

The financial failings of the 1980s, both within in the region and in international aid or oversight, left only lessons on what to avoid after 1989. Recall the initial hopes for returning to the presumed market economy of the pre-Communist decades, a presumption encouraging the anti-inflationary Washington Consensus against currency devaluation or state budget deficits and for privatized enterprise My review of Greek as well as Yugoslav and Bulgarian economic history from before 1914 to the start of the Second World War suggests a set of lessons supporting instead the reform of public administration and the regulation of private enterprise informing the Post-Washington Consensus and the EU chapters. They are experiences with central governments and central banks, the domestic market and the international framework. They are (1) foreign borrowing, debt and oversight. (2) fixed exchange rates, capital controls and tariffs, and (3) credit and investment from state enterprise or state-authorized cartels versus domestic and foreign banks or joint-stock enterprise.

For the pre-1914 period, the governments of Greece, then Serbia and Bulgaria borrowed heavily from the European capital market and paid a price for subsequent defaults. Greece and Bulgaria faced direct charges on their tax revenue from international financial commissions in which they had minority representation. Serbia had majority representation and the further advantage of new loans with less reduction in debt service because of French rivalry with Austria-Hungary. And all three restricted credit and note issue to stabilize their currencies. To meet the prewar Gold Standard, they fixed and probably overvalued their exchange rates to the French franc. Thus attracting more loans, they also spent most of the higher effective amounts on debt service, military equipment or public administration and employment in their capital cities. The start of a conscious industrial policy in Bulgaria which carried on into the interwar period did provide official encouragement to industry in the form of tariff and tax exemptions, if not direct investment beyond the state monopolies common to the region.

During the 1920s, ebt still owed to the now Western capital market was only one reason that the prewar flow of loans did not resume. Greece’s reputation as a bad
risk from the late 19th century reemerged in the British position in particular. For
Bulgaria, early British occupation of Sofia and then reparations hurt its chances. As
for Yugoslavia, Serbia’s role as a wartime ally fed postwar expectations for new loans
from Paris. They were not met now that France no longer had a powerful Central
European rival. Still, domestic and Czech banks in western Yugoslavia and West Eu-
ropean banks in Bulgaria provided investment and credit. The League of Nations
Refugee Resettlement loans helped in northern Greece. But the Genoa Consensus of
1922 bound all three governments to restricted credit in order to create stable curren-
cies under the new Gold Exchange Standard, again at overvalued rates of exchange.
Protective tariffs helped only the textile sector and otherwise restricted foreign trade
still further. The political independence of central banks was nonetheless a useful
precedent.

Departure from fixed exchange rates and devaluation in the early 1930s, it should
be noted, did not restart industrial growth. It restarted only in the late 1930s after
debt reduction and rescheduling, peasants included. This past experience supports
the judgment of the Martin Sanbu’s recent argument (2015) that returning to a de-
preciated drachma would not help Greek economic recovery but debt restructuring
would. Reliance on state contracts for rearmament in the late 1930s did not promise
much for “smart growth”, nor did its connection to cartel networks for metallurgy
and chemicals that discouraged innovation. Investment banks could no longer afford
the entrepreneurship of the 1920s, just as they have not been able to afford it since
2008. Still, there were some positive legacies. Reading like economic chapters for EU
accession, they ranged from fiscal accounting standards for professionally staffed
and potentially independent central banks to rising joint-stock incorporation under
new commercial codes promising the rule of law. Students in scientific and techni-
cal training were accounting for nearly half of the enrollment in Belgrade and other
universities in the region by 1938. But it remains to be seen whether the prospect
for a regional customs union raised briefly at the 1930 Athens conference could find
the new life recently breathed into it at a meeting in Sarajevo. There was of course an
economic union in place across most of the Western Balkans until 1991. Bila jednom
jedna zemlja.

But let me not close on a note of Yugonostalgia. Let me conclude instead with the
hope that the process of EU accession can continue in Serbia and across the Western
Balkans. Its success will also depend on the revitalization of the European Union and
the revival of European economic growth. To revive the struggling Greek economy,
the IMF proposals for debt reduction seems a good place to start. The region as a
whole can still move forward if its dozen states are connected to each other and the
rest of Europe as Southeastern Europe, not left divided as the Balkans was before the
First World War.
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THE ASIATIC MODE OF PRODUCTION REVIVED

Miomir Jakšić¹

Abstract: This paper actualizes the contribution of the Asiatic mode of production (AMP) and evaluates it in the light of recent developments in economic theory in the domain of institutions, the role of culture, and fundamental factors of development. AMP theory is more complex than neoclassical economic theory because it connects fundamental economic and political factors, physical geography, institutions, and culture. Recent trends in institutional economy and political macroeconomy confirm the significance of AMP theory, in which the different destinies of particular countries and the non-existence of warranted economic and social prosperity are explained by two paradigms, geographical and institutional. The geographical paradigm insists on the significance of physical geography, climate, and ecology in shaping technology and individual behavior. The institutional paradigm centers on the role of institutions in promoting investment in human and physical capital and technology. Those two approaches have their roots in: 1) traditional society theory (theory of the Asiatic mode of production), in which differences between the traditional society of each country explain their different growth rates and level of economic development, and 2) world system theory, in which only countries that escaped colonial status have a chance to develop. Keywords: Asiatic mode of production, institutions, geographical deviation, political macroeconomy, sustainability, good governance.

JEL Classification: B10, B15, O13
Field: Economics

INTRODUCTION

Discussion of the Asiatic mode of production (AMP) is like a Phoenix: it is regularly resurrected.² Bearing in mind recent economic developments, especially in political macroeconomy, it is apposite to evaluate the heritage and contribution of AMP. The arguments are as follows:

Mainstream neoclassical economics focuses on proximate factors of development (land, labour, capital). AMP theory focuses on fundamental factors of development (institutions, state intervention).

Discussion of the European path of transition from feudalism to capitalism is identified as progressive, while the Asian path is seen as ahistoric and stagnant. The current
dynamic development and high growth rates of Asia are due to incentives created by state authorities, similar to the centuries-old AMP heritage (Hydraulic society).

The European model of capitalist development is evaluated within the triangle of 1) physical geography (proximate causes of development), 2) culture (norms, tradition, religion), and 3) institutions (recently, inclusive institutions). Nowadays, according to political macroeconomy, institutions are the dominant factor. AMP theory integrates three factors: 1) the significance of physical geography (Wittfogel’s hydraulic society and the Russian discussion of geographical deviation in the 1930s), 2) culture (long-lasting, evolutionary path dependence), and 3) institutions (the central role of the state apparatus, great public works instead of free market initiative).

**Figure 1: Proximate versus fundamental causes of prosperity**

![Diagram showing proximate versus fundamental causes of prosperity]

Source: Acemoglu, Liabson, List 2015, Chapter 8.

Development theory’s focus on the relationship between capitalist and pre-capitalist modes of production makes it possible to discover the driving forces and mechanisms behind their evolution and the outcomes of their disappearance, while simultaneously explaining both the internal and external causes of underdevelopment according to the theory of a capitalist world economy.³

The general model of development initiated either inside or outside a country shows that development, as a succession of modes of production, took place in different ways within the multilinear course of world history, and the driving forces, mechanisms, and outcomes differ. In Western Europe the driving forces stemming from the sphere of production (internal) enabled the transition from commercial to industrial capital, while in the East these forces came from the sphere of trade (external) or were

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imposed by colonizers, so there was no development from commercial to industrial capital. The development of the Orient can be linked to the theories of traditional society and world economy.

1. ASIATIC MODE OF PRODUCTION

Based on all elements, the East separating from the West, so the theory of the Asiatic mode of production is in essence interdisciplinary:

- In economic theory it deals not only with one specific, geographically limited space, but, in the broadest sense, with the role of factors of production and technology, the relationship to nature, stagnation, attitude towards the social superstructure, and the domination of non-economic instances.
- In political theory, this concept and its history is important because, compared to the classical Western European model, it has a different explanation for the formation of classes and a state in which there is no private property and where the state’s role is primarily functional, rather than as the instrument of the ruling class.
- Philosophically, this concept explains the role of religious factors in the stagnation that occurred after the initial take-off.

Europe’s attitude toward Asia has varied, from enthusiasm for the political and economic reality of the East (sinophilia) to colonialism and the condemnation of and emphasis on stagnation, despotism, and backwardness (sinophobia). The Asiatic mode of production theory understands processes of socio-economic development differently from Western European theory, which is based on Eurocentrism and presented as a general model of human development. In Asia, the categories and laws of Western European development have limited applicability, thus challenging the path of development expressed as a five-stage scheme (primal community – slavery – feudalism – capitalism – socialism).

Oriental societies and the Asiatic mode of production have recently become of interest to scholars once more. The literature on Asia started in the 17th century, when traders, travelers, diplomats, and missionaries first brought news about Asian life and society to the West. Later, the East was discussed by Bernier, Smith, Hume, James Mill, John Stuart Mill, Montesquieu, Voltaire, Quesnay, Hegel, Herzen, Plekhanov, Marx, Engels, and Lenin, among others.

In the 20th century interest in the Asiatic mode of production resurfaced on several occasions. In the 1920s and 1930s it was discussed in the USSR (Leningrad), China, and Japan. After the Second World War, scholars from England, France, Italy, Hungary, Germany, the USSR, Japan, China, and the United States wrote on the Asiatic mode of production.
The discussion of the Asiatic mode of production was and still is centered on the dynamism/stagnation and revolution/evolution paradigm and debates the advantages of one model or the other and the coincidence of the dynamism and revolution in the West that broke all connections with pre-capitalism, compared to the stagnation and evolutionism in the East. The theory of the Asiatic mode of production is used to verify the Western development model.

Approaching the Asiatic mode of production from a Eurocentric position denigrates the cultural heritage of the East and overemphasizes the negative elements of oriental despotism. In addition, the economic base is simplified and narrowed down to the necessity for public works carried out by the state such as regulation of the water supply, resulting in these societies being given the pejorative moniker of ‘hydraulic’ societies, as if Eastern civilizations had no other features except irrigation works.

Many scientific and technical achievements of the Asiatic mode of production which, even though it was in its own way developing its production over time, as well as other modes of production became its obstruction. The first book using the technique of moving letters was printed in China in 868, 600 years before a similar book was printed in Europe in 1446 by Gutenberg; paper money existed in China in the 13th century; and Europeans took the secrets of producing silk, gun powder, and the compass from the Chinese. By then China had significantly developed its agriculture and trade, including overseas trade. All this could not have occurred without a developed economic base – the Asiatic mode of production.

Criticism of the Asiatic mode of production’s slow development is difficult to assess, given that imperialist expansion destroyed it and shattered its autochthonous development and character. Thus, debate on the economic models amount to scholastic discussions, often marked by Eurocentrism. The Western view of the Orient as a place of despotism and bloody confrontation still dominates today. Marx’s understanding of Asia is an example of a Western vision of the East, combining fact and fantasy.

Contemporary European thought comes from Renaissance and 19th century theories of progress: a social order free from violence, oppression, domination, and exploitation is not only possible but inevitable, because they are not inherent attributes of human society. The history of human society is the history of class struggle, of the development of the forces of production. The Asiatic mode of production opposes these ideas: domination and oppression prevail in a social order that is stable and safe because it does not arise from a pre-existing unstable system of class exploitation. State bureaucrats, soldiers, and officials constitute the classes, and they neither exist-

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4 For the achievements of Chinese civilization see Étiemble, Connaissez-vous la Chine? (Do you know China?). Gallimard 1964, and C. Hucker, China’s Imperial Past, Duckworth, 1975.
ed prior to the system nor were created by it: they created it. Thus, domination does not result from economic exploitation, but is an independent primum mobile. In the Asiatic mode of production, stagnation and pessimism are seen as suppressing infinite optimism, which can only be explained by Eurocentrism, whose theoretical and practical interest is in the area between the Mediterranean and the North Atlantic.

The debate on the Asiatic mode of production raises a number of fundamental theoretical questions about the relationship between:

* Evolution and revolution;
* Stagnation and dynamics;
* Functionalism and instrumentalism.

The Western interpretation of the East highlights its long-term evolution, which results in stagnation that imposes comprehensive functionalism on the state, thus causing economic and social decline.

The Western model of the Asiatic mode of production emphasizes the following characteristics:

1. Long-term evolution;
2. Stagnation;
3. Functionalism;
4. Decreasing economic and social returns.

Two development theories explain the Eastern process of socio-economic development: 1) internalism – seeking the causes of development/underdevelopment in internal factors; and 2) externalism – explaining the development process by the influence of external factors such as colonialism.

The following questions are central to our topic:

- Does the East have its own history of development, or only the history of colonial invaders?
- To what extent do general or specific rules of development apply in Eastern countries?
- Is capitalism the consequence of indigenous forces or imposed from outside?
- Does colonialism encourage development or create underdevelopment?
- What is the impact of religion and ethics on the social and economic development of Eastern countries?

Moulder provides typical views of the two theories:

a) The traditional society theory: differences between traditional societies cause the same influence to give different results
b) The world economy theory: Japan has developed because it is the only country that escaped colonial status.

The example of Japan is significant in both theories because it is an exception that proves the rule:

* According to the traditional society theory, Japan is a feudal society, unlike other Asian societies
* According to the world economy theory, Japan joined the world economy later and by other means than other Eastern countries, which is why it developed.

From the standpoint of the world economy theory, Japan evaded bad faith for two reasons:

a) Colonial conquest was primarily aimed at China and India, not Japan;
b) When Japan became the focus of interest there were violent clashes between the colonial cities, which enabled Japan to become part of world trade by economic and political means rather than through military submission. Hence, the fact that China and Japan were both feudal societies but Japan developed while China remained underdeveloped can only be explained by Japan having avoided the status of a colony.

Moulder emphasizes that this interpretation can be challenged on several grounds: China was not a colony, but a semi-colony, as was Japan, so the external influences were the same, not different; Chinese and Japanese society differed in that Chinese feudalism was bureaucratic, not feudalism as in the West, and this was crucial for further development.

Traditional society theory prioritizes internal factors, while external factors are subordinate. In the case of China and Japan, China response to violent internal events was significantly milder than Japan’s, even though Japan experienced no smuggling, opium, wars, or territorial conquest. This paradox can only be explained by differences in traditional societies, so in this context the different development conditions are emphasized. Moulder delineates three types of reasons: necessary reasons which are latent and do not incite development); initial reasons, which are the political and economic institutions; and sufficient reasons, which activate the potential of internal and external conditions. If the necessary and initial conditions exist, then the external influences are not necessary. Traditional society theory has two sub-theories:

1) Development factor theory
2) Ideal types theory.

Development factor theory stresses the factors that are too particular and distinctive to be used as units to measure development/underdevelopment. For Japan, these factors could be its insular position, militarism, pragmatism, loyalty, religion, national-
ism, and progress of the traditional economy. In addition to the shortcomings of its general approach, this theory suggests that the same factors are drivers of development in some countries while causing underdevelopment in others (for example, vast territory brought development to the USA and caused underdevelopment in China).

Traditional society theory has the following shortcomings:

a) There is no unambiguous link between cities' autonomy and the rise of commerce and industrialization (English cities were more dependent on feudal rule than German cities, and yet England developed).

b) The commercial bourgeoisie proved incapable of generating development without government incentives.

c) There is no analogy between bourgeois control of the state and government development incentives because the state also encouraged development in feudal times.

d) As Japan was a feudal society, traditional society theory cannot explain why the transition to capitalism in Western Europe was induced by internal factors, and in Japan by external factors.

The key questions are:

Are Japan and China different from one another?
Do Japan's and China's relationships with the outside world differ?

Moulder concludes that the traditional society theory exaggerates the differences between Qing China and Tokugawa Japan on the one hand, and the similarities between Tokugawa Japan and Western Europe on the other. Both China and Japan were agrarian and produced the same products, with similar shares of the population working in agriculture and a similar share of agriculture in the national income. The craft textile industry was significant in both countries. Increased productivity in agriculture and trade growth started earlier in China and lasted a shorter time in Japan, but they were similar in both countries. Commercialization is the most important indicator of change and goes from extensive (expansion) to intensive (deepening). Extensive commercialization is linked to trade, and intensive commercialization increasingly to production: in neither country did the shift from extensive to intensive commercialization take place, which is confirmed by a similar share of traded products in total production of about 30%.

Moulder points out that when connections with China developed, foreign investment increased significantly, whereas this was not the case with Japan. Political and military penetration was very significant in China and eliminated the weak state, while in Japan a weak feudal state became a bureaucratic and national state, which provided government incentives for industrialization. Bagchi distinguishes three periods of exploitation. 1757–1858 was the period of mercantilist exploitation: the British East India Company's monopoly of trade with India was abolished in 1813 and with
China in 1834, and in 1858 the governance of India was definitively subordinated to the British Parliament. In the period 1858–1914 free trade flourished, and the period 1914–1947 marks the end of colonialism and the establishment of neo-colonialism.

Four elements are essential to the Asiatic mode of production:

1) The absence of private ownership. Instead of Western European hereditary ownership there is a non-hereditary state system, which made commodity production impossible and kept the state dependent on despots, the natural economy, and autarchy.
2) Village communities unite agriculture and handicrafts. The division of labor is underdeveloped and exchange appears only marginally and on the basis of the ‘external’ creation of commodity production.
3) Public works became the basis of general social progress and part of the state infrastructure.
4) Despotism as a political system developed from an economic base of public works and axis natural economy.

Fogel describes the essence of AMP as follows: “In the ‘East’ ruled by an all-powerful despot who held final control over all matters secular and religious: Oriental despotism. This society was agrarian and highly dependent on massive irrigation projects that any given locality was unable to provide for itself; thus, every local community was dependent for its lifeblood on the center that provided these hydraulic works. Private property was not recognized, inasmuch as the despot owned all the land. And the village was the primary unit of society. Thus, the social order based on the Asiatic mode of production lack dynamism.”  

The 1950s Dobb-Sweezy debate on the transition from feudalism to capitalism further actualized the importance of the AMP model. Marx distinguished two stages in the emergence of capitalism. The second, Asian stage confirms the originality and importance of the AMP model that Krader labeled the “political economy of Asia”.

Table 1 summarizes the different socioeconomic development in Europe and Asia.

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7 Discussion about transition from feudalism to capitalism, (Dobb-Sweezy discussion), Yugoslav edition, Prelazak iz feudalizma u kapitalizam, Marksizam u svetu, no. 2, 1979.
<table>
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<tr>
<th>Western Europe</th>
<th>Asia</th>
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<td>Marx’s way no. 1</td>
<td>Marx’s way no. 2</td>
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<td>Producer becomes merchant</td>
<td>Merchant overrules production</td>
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<td>Transition impulses stem from production</td>
<td>Transition impulses stem from trade</td>
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<td>Impulses are internal</td>
<td>Impulses are external</td>
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<td>Model applies to Europe</td>
<td>Model applies to Asia</td>
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<td>Democratic transition</td>
<td>Autocratic transition</td>
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<td>Clash with feudalism</td>
<td>Coexistence with feudalism</td>
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<td>Primacy of economic instance</td>
<td>Primacy of political instance</td>
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2. THE ROLE OF GEOGRAPHY AND ‘GEOGRAPHICAL DEVIATION’

In 2000, Acemoglu proposed an alternative to the geographical approach that emphasized formal institutions and property rights.10

The geographical paradigm insists on the significance of physical geography, climate, and ecology in shaping technology and individual behavior. The institutional paradigm gives institutions that promote investment in human and physical capital and technology the central role.11 These two approaches have their roots in traditional society theory (the theory of the Asiatic mode of production), according to which differences in each country’s traditional society explain their different growth rates and level of economic development, and in world system theory, which posits that only countries that escaped colonial status have a chance of developing.

These two development theories explain the Eastern process of socio-economic development as 1) internalist – the causes of development/underdevelopment are sought in internal factors; and 2) externalist – the development process is explained by the influence of external factors, i.e., colonialism.

Sawer wrote: “Marx’s overall analysis of the development of East and West was entirely based on the use of geographical factors as the source of these differences.”12

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Other Marxists were less convinced by nature’s “insignificant influence”, especially Plekhanov, whose views were long described as “geographical deviation”.  

The conclusion of the most prominent actors in the discussion on the Asiatic mode of production regarding the role of the environment is that Plekhanov strengthened the elements of geographical determinism that Marx inherited from Hegel and Montesquieu, and that he was himself influenced by Mechnikov and Ratzel. Natural environment has an accelerating or halting effect, and with development this effect weakens.

Sawer concludes: “The significance of Plekhanov’s contribution to historical materialism is not in the popularization of the thesis of accelerating/retarding consequences, but in a different approach to the geographical factor that dominates his works: the role of the geographical environment has always been extremely important for determining the nature of social relations”.

Putterman seeks answers to these questions in the geographical factors, the spirit of the discussion on the Asiatic mode of production, and the subsequent discussion of geographical deviation in the time of Stalin in the USSR.

According to Wittfogel, the three main characteristics of hydraulic society are:

1. specific division of labour;
2. tillage of land;
3. wide-scale cooperation.

Division of labour encompasses preparatory and protective measures independent of the potential of agricultural production. Preparatory measures are irrigation (channels, dams, irrigation, in Chinese villages this is twenty to fifty percent of work, in Indian villages even more). The goal of protective measures is protection against floods and are caused by lack of water. Both forms of hydraulic works – preparatory and protective – have the following elements: 1. cooperation, 2. integration and 3. leadership ...

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14 M. Sawer, op. cit., p. 185.
16 Wittfogel, K., "Vodoprivredna ekonomija originalni oblik politièke ekonomije", in Marksizam u svetu, no. 7, 1980, p. 259.
historical consequences it is insignificant whether leaders of hydraulic governments are peaceful rulers, warlords, priests, or hydraulic functionaries.”  

The conclusion about the significance of political institutions and their functional character is the core of AMP theory and preceded political macroeconomy by more than half a century.

3. THE ROLE OF CULTURE

The most common tools for measuring institutions and culture are indices and survey questions. In this paper we used Hofstede’s cultural dimensions indices and the World Values Survey (WVS) to compare different countries. Hofstede’s classical work is the basis for including culture in the field of economics, and nowadays also contributions made by international human resource management and organizational culture.  

Figure 2: Comparison of cultural dimensions in China, Japan, and Germany

Source: http://geert-hofstede.com/dimensions.html

The figure compares three countries, China, Japan, and Germany based on the following logic. China is an example of the Asiatic mode of production, a traditional society based on traditional culture that was not colonized as part of the capitalist world economy. Japan is an example of an Asian feudal country that was not colonized as part of the capitalist world economy. This enables us to analyze the influence

17 Wittfogel, K., Ibid.
of different traditional societies. Germany is a European capitalist economy, Japan is an Asian capitalist economy, and China is an example of the Asiatic mode of production.

The differences between the three countries are the result of traditional social and economic attributes and not of external influences, as the three countries were not colonies. The power distance is highest in China, (hierarchical order is accepted, in which everybody has a place and which needs no further justification); individualism is highest in Germany; masculinity (a social preference for achievement, heroism, assertiveness) and uncertainty avoid ance (rigid codes of belief and behavior and intolerance of unorthodox behavior and ideas) are highest in Japan. The levels of pragmatism and indulgence are similar in all three countries. The Hofstede index of the sample confirms the significance of historical heritage, traditional values and culture, and institutionalist path dependence.

Figure 3: Comparison of cultural dimensions in China and Russia

Figure 3 compares two countries: China, as an example of the Asiatic mode of production – a traditional society based on traditional culture – and Russia, a semi-periphery society and economy positioned between Europe and Asia, which in different historical periods has oscillated between center and periphery and between capitalist and Asiatic modes of production. Individualism is higher in Russia, masculinity in China; uncertainty avoidance is three times higher in Russia, while pragmatism and indulgence are almost the same in both countries.
Where the capitalist world economy dominates peripheral societies and colonies the influence of historical heritage, institutions, and beliefs is more important than external influences and more important than the influence nowadays of global leaders over post-socialist countries (Russia and China): Hofstede’s most important dimensions are influenced by internal, traditional factors, not external ones.

4. THE ROLE OF INSTITUTIONS

Acemoglu distinguishes between the following types of institutions (or different institutional roles): “Economic institutions: We can think of economic institutions as determining the ‘economic rules of the game’ – in particular, the degree of property rights enforcement, the set of contracts that can be written and enforced, and some of the rules and regulations that determine the economic opportunities open to agents. Political institutions: In contrast, political institutions determine the ‘rules of the political game.’ Political institutions help to regulate the limits of political power and determine how political power changes hands.”

His conclusion that political power over economic institutions fundamentally confirms that the main building block of AMP, in a structuralist sense, is the dominance of political over economic instance, instead of the commonly held view that general causality runs in opposite direction, from economic instance (private property) towards political institutions (state apparatus). This further confirms the central and independent functional role of the state apparatus (in China, the literati class), against the instrumentalist view of the state (the Western model of the state as nightwach). Acemoglu writes: “the notion that political power determines economic institutions is the idea that there are conflicting interests over the distribution of resources and therefore indirectly over the set of economic institutions. Individuals who have political power cannot commit not to use it in their best interests.”

5. CONCLUSION

The different destinies of particular countries and the non-existence of warranted economic and social prosperity are explained by two paradigms, the geographical and the institutional. The geographical paradigm insists on the significance of physical geography, climate, and ecology in shaping technology and individual behavior. The institutional paradigm gives the central role to institutions that promote investment in human, physical capital and technology. Nowadays, inclusive institutions are emphasized in the institutional paradigm.

21 Ibid.
In the last two decades, due to the contributions of political macroeconomy, the economic focus has turned away from a narrow perspective based on the market and privatisation (market fundamentalism) to a broader perspective based on institutions and values (institutionalism). In the light of these developments, it is worth reconsidering the legacy of the Asiatic mode of production.

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MONETARY POLICY AND FINANCIAL STABILITY IN A CRISIS CONTEXT

Aleksandar Živković*, Slobodan Lakić**

Abstract: Financial stability, in addition to monetary stability, is recognized as a crucial mandate of central banks. Because of the relationship between monetary policy and financial stability, many researchers and policymakers recognize financial stability as an explicit goal of monetary policy. Despite the academic community and practitioners focusing on the complementarity of price stability and financial stability, in a crisis context their potential conflict is apparent. Achieving price stability is not an adequate guarantee of reaching financial stability. Facing monetary policy with the existing economic repercussions should not be a priority. The level of costs in relation to benefits will determine the potential action of monetary policy vis-à-vis the traditional approach, with the goal of reducing the probability of crisis. However, the channels that monetary policy uses to comprehensively influence financial stability are insufficiently clear.

Keywords: monetary stability, financial stability, monetary policy, transmission channels, financial crisis

JEL: E52, E58
Field: Economics

1. INTRODUCTION: THE CONCEPTUAL FRAMEWORK OF MONETARY AND FINANCIAL STABILITY

Despite the fundamental distinction between a ‘broader’ approach to smaller fluctuations in money value, i.e., slower decrease or growth of money value, on the one hand, and an implicit ‘narrower’ approach to the stability of the domestic purchasing power of money on the other hand, central bankers sometimes define monetary stability as “stable prices and confidence in the currency” (Bank of England). In addition, the inflation target is seen as a basis for defining price stability. Theoretically, monetary stability and price stability have the same root cause, while in practice the distinction between the two types of stability depends on the context and manner of the central bank’s communication with the public. The imposition of a low and stable inflation rate is the starting point for the interchangeable use of the terms ‘monetary stability’ and ‘price stability’.

The literature points out that the optimal way for economic agents to make investment and consumer decisions depends on monetary stability. Thus, tight or loose monetary policy (monetary conditions) stimulates or destimulates economic activity. However, apart from the monetary factors of sustainable and long-term economic growth, it is necessary to analyse factors such as natural and human resources, pro-
ductivity, and innovation. The specific activities of a central bank are determined by its mandate, and the possible consequences are inflation and speculative activity in the one direction, and slowing down of economic activity and reduced household income and demand in the other.

Financial stability used to be based on actions, from the stabilization of interest rates to the function of lender of last resort. The magnitude of the financial crisis in many economies and the crucial role of central banks in the financial sector have led researchers and policymakers to reconsider the relationship between monetary and financial stability. The depth of the recent financial crisis has pointed to the responsibility of monetary authorities in preventing financial crises, which does not match the central banks’ opinion of their activity after the crisis, which was not that of those trying to prevent potential financial disturbances. Micro- and macroprudential policies are proposed to achieve the explicit goal of financial stability. Thus the traditional tasks of central banks are replaced by the microeconomic goals of price stability, growth, and full employment.

The restored interest in central banking in conditions of global financial crisis points both to the leading role of central banks in contributing to the crisis and to the maintenance of future monetary and fiscal stability. Monetary stability has certainly been the dominant mandate of central banks for at least the last three decades. Financial stability first became central to the theoretical and analytical framework in the 1980s due to the crisis period in the second half of the previous decade. The role of maintaining a stable currency and the function of money creation/regulating monetary conditions are in contrast to the role of preventing financial imbalance through the maintenance of a moderate and effective financial system and the function of supervising the payment system, lender of last resort, and banking.

Central banks not only focus on one mandate but also try to get mandates without explicit emphasis. Starting from the assumption that maximum employment is reached through price stability, some authors think it unnecessary to stress full employment as a special mandate. For example, the mandate of the Federal Reserve is price stability and full employment, with less emphasis on full employment until recently. In the current crisis situation, unemployment has reached high levels, which is why the Federal Reserve has set as its mandate the target of maximum employment and price stability. Other central banks explicitly exclude the mandate of full employment, but they start from the assumption that achieving monetary stability will enable economic agents to 'behave optimally', which should lead to full employment in the long term.

One issue is whether there is complementarity, e.g., mutual support or substitutability, when there is conflict in the trade-off between the two types of stability. Apart from monetary (price) stability supporting financial stability, numerous authors (e.g., Schwartz 1995) claim that inflation is a crucial factor causing financial market vul-
nerability in that it increases the possibility of false perceptions of future revenues, worsens the problem of asymmetric information, encourages stronger price applicability, and creates business uncertainty and banking crises (Schwartz 1995). The ‘new environment’ hypothesis points out that the trade-off is based on the assumption that successful inflation control by the central bank may result in over-optimistic market perceptions and forecasts of the future state of the economy.

2. THEORETICAL APPROACHES TO MONETARY POLICY AND FINANCIAL STABILITY

With the aim of carrying out the mandate of monetary stability, the monetary policy of central banks is based on several theoretical approaches, leading to five proposals for creating and implementing monetary policy. Generally, central banks implement monetary policy by using a credible rule with the goal of achieving low and stable inflation, i.e., long-term price stability without unemployment below the natural rate.

- The Quantitative Theory of Money represents the relationship between money, economic activity, and general price level in the long term. According to this theory, monetary policy has a long-term effect on the price of goods and services, but not (directly) on quantitative output and the level of economic activity. Given the input of capital, labour, and technology, long-term price growth and inflation are the consequences of enhancing the economy by creating money. Therefore the state should refrain from creating excessive money.

- According to the Phillips Curve, monetary policy influences economic activity and output in the short term. The Phillips Curve provides a theoretical basis for the implementation of monetary policy in order to ‘fine tune’ the economy or for a short-term negative relationship between inflation and unemployment. This trade-off is based on the assumption that when there is inflation the unemployment rate declines, and vice versa. The government achieves fine-tuning by influencing these two variables.

- The Natural Rate of Unemployment, the unemployment rate that corresponds to economic potential, is what remains when a long-term trade-off between inflation and unemployment terminates. Inflation and unemployment will grow in the long term if the central bank tries to keep unemployment below the natural rate, in which case not only will the central bank reduce the unemployment rate to below the natural rate but inflation will grow as well.

- The Rational Expectations Hypothesis was developed in order to point out the shortcomings in economic theories based on so-called adaptive expectations. The hypothesis assumes that individuals form expectations taking into account all disposable information, and that these expectations are accurate on average. When expansionary monetary policy increases inflation expectations it can encourage
an upward spiral of wages and prices. Therefore, to effectively manage price stability the central bank has to manage the inflation expectations of the public.

- The Time Inconsistency Problem derives from policymakers departing from their proclaimed policies and thus creating a problem for the credibility of future policies. In accordance with the concept of time inconsistency, monetary policy is carried out according to explicit rules and not by discretion, with the intention of maintaining the central bank’s credibility and monetary policy effectiveness. The effectiveness of monetary policy in maintaining low and stable inflation depends on its credibility.

There are different attitudes to and definitions of financial stability. For example, according to Issing (2003), financial stability is when asset prices are stable, there are no banking crises, and market interest forces are readily transmitted into interest rates. Mishkin (1991) gives a definition that is considered too wide, defining financial stability as when the financial sector guarantees efficient allocation of savings and investments in a sustainable manner and without significant disruption. The theoretical grounds for financial stability are grouped around: a) the macroeconomy, b) financial institutions, and c) financial markets.

a) Crucial research and theory that focuses on the macroeconomy can be found in Fisher (1933), Gurley and Show (1955), Kindlberger (1978), Minsky (1986), Bernanke and Gertler (1990), and Borio and White (2004). The theory focuses on the relationship between economic agents’ financial activity and their real activity. For example, faster growth of loans and asset prices resulting from accelerated financial activity will produce higher consumption and investment. As a consequence, further growth of loans and asset prices creates a bubble, which then bursts and is followed by a reduction in real economic activity.

b) Relevant theories that focus on financial institutions include models of bank runs (Diamond and Dybvig 1983; Rochet and Tirole 1996; Allen and Gale 2000; Freixas, Paragi and Rochet 2000; Haldane 2009. According to Diamond and Dybvig, in conditions of incoherent inclination to unstable financial intermediation, bank runs are the result of panic among depositors, and the effects of a shock in one bank will be transferred throughout the system. Later work emphasises systemic bank runs, i.e., the resiliency and fragility of the financial network. A crucial consequence is the necessity for deposit insurance and effective supervision of individual banks and the banking sector as a whole in order to stop bank runs.

c) Akerloff (1970) and Stiglitz and Weiss (1981) provide crucial theoretical insight into financial markets. Information asymmetry is a basis for market disturbances, financial markets are not completely efficient, and adverse selection is a reality. Financial agents’ prices do not reflect the true underlying risk and excessive positions in financial assets create financial imbalances and vulnerability as well as high interest rates.
The theoretical approach to the relationship (trade-off) between monetary policy, financial conditions, and financial vulnerability includes the domain of macroprudential policy, which has not been specially dealt with in monetary policy literature. Traditional economic models have not particularly analysed channels that refer to taking risk.

- Monetary policy functions through financial conditions referring to expected economic results, but financial stability risks complicate attempts to include financial stability when defining monetary policy. The channels of monetary policy (e.g. interest rates, asset prices) may lead to increased vulnerability when the financial system is less resilient to negative shocks. This increases future risks to financial stability.

- Financial conditions are a trade-off between inflation and real activity. Adrian and Liang (2016) review current research on the effect of monetary policy on financial vulnerability and the role of macroprudential and monetary policy in mitigating vulnerability. The analysis includes limitations of macroprudential policy on market-based financial systems, the endogenous growth of taking risks, and the costs and benefits of the implementation of monetary policy for the purpose of ‘leaning against the wind’. It turns out that calculation of net costs is insensitive to assumptions.

- Financial vulnerabilities are competing mechanisms that extend negative shocks, while risks are the realization of negative shocks. Financial stability maintains an elastic financial system with less probability of extended negative shocks. Financial instability arises when negative shocks are extended due to vulnerability, which leads to nonlinear results and accompanying events. Policymakers should pay attention in advance to the downward risks that arise from uncertain probability in the future.

The aim of the analysis is to point to the need for further research in order to better “highlight that more research is needed to better quantify the magnitude of monetary policy on financial vulnerabilities through asset prices and endogenous risk-taking” (Adrian and Liang 2016). The specific financial vulnerabilities are: risk valuation, leverage, transformation of maturity and liquidity, and incoherence and complexity of the asset market sector, banking sector, shadow banking sector, an non-financial sector. We start from the position that Svensson’s (2016) costs and benefits framework offers a transparent approach when emphasising crucial assumptions in assessing net costs and benefits. The focus is on the severity and probability of the crisis and monetary policy vulnerability if the crisis is predefined. There is theoretical and empirical support for the belief that monetary policy contributes to increasing vulnerability, but that does not mean a priori that monetary policy should target these vulnerabilities.
Financial conditions play a central role in the transmission of monetary policy through the overall economy and changing financial conditions determine the impact of monetary policy on the rest of economy. Monetary policy channels can be:

- Traditional (New Keynesian), where the focus is on changes in central bank short-term interest rates or changes in the exchange rate (effects on trade)
- Non-traditional, where the focus is on imperfect loan supply caused by financial intermediaries’ limitations resulting from information asymmetry. Examples of such channels are the balance sheet, bank capital, and risk-taking.

A significant part of the literature on the channels that transmit financial conditions to different economies focuses on the level of monetary dependence when defining interest rates. In addition to the Mundell-Fleming trilemma, there are other mechanisms that cannot be fully compensated by changes in interest rates. Changing financial conditions from originating countries can proliferate through several interconnected channels, such as changing amounts of loans, different types of capital flow, and comovements in risk premiums. Different analyses show that global factors cannot significantly influence global financial conditions. However, global financial connectedness makes managing domestic financial conditions and creating monetary policy more complex.

3. THE TRANSMISSION MECHANISM OF MONETARY ECONOMY – THE RISK-TAKING CHANNEL

Economic models usually assume a stable transmission mechanism. In the New Keynesian model, price stability should maintain output around its natural level. The global financial crisis has clearly shown that price stability does not necessarily lead to financial stability. It is also clear that the relationship between monetary policy and financial stability is complex. International Monetary Fund (IMF) emphasises the special role of monetary policy in maintaining financial stability. The transmission between monetary policy and financial stability includes the relationship between interest rates and crucial financial variables (quantities and prices) and the relationship between these variables and possible major disturbances (crises) in macroeconomic conditions. The theory suggests that higher interest rates can weaken financial stability in the short term, before agents adapt their balance sheets. In the mid-term, however, “these effects are likely to reverse as households, firms and financial institutions rebalance their balance sheets and adapt their behavior” (IMF 2015).

According to Adrian and Liang (2016), there are four sectors of the financial system that, along with vulnerability, form the basis for the analysis of monetary policy transmission channels. In the non-financial sector, expansionary monetary policy causes the expansion of loans by encouraging borrowing at low interest rates. Risk-taking creditors reduce the quality of guarantees (underwriting) and increase the debt bur-
den of borrowers. In the asset market channel, monetary expansion improves financial conditions by reducing the risk-free term structure, increasing the price of risky assets, and reducing the risk premium. It is wrong to measure risk. The consequences of monetary policy transmission through the banking sector are increased lending (higher loan supply) and possible higher leverage of banks and brokers (dealers). Expansionary policy in shadow banking increases financial intermediation outside the banking sector, leading to the possibility of leverage and maturity transformation not covered by deposit insurance.

Conventional transmission mechanisms include the interest rate channel, or the effect of the central bank’s interest rate on households’ decision to save or spend and companies’ decision to invest. Reduction of the central bank’s interest rate due to price inflexibility and inflation expectations leads to a reduction in real interest rates in the economy, encouraging households to borrow and spend and companies to borrow and invest. With increased demand, prices and wages will gradually increase, while the real exchange rate will weaken, making domestic goods cheaper (exchange rate channel). Inflation will grow due to an increased demand for imports or a demand for products that compete with imported goods. Compared to the other channels, in the loan channel banks and money supply play a crucial role.

Generally, low interest rates increase the price of different financial assets, the demand for real assets (collateral) grows, and banks are readier to lend money. With the risk-taking channels the focus is on higher risks, not on a change in interest rates. The hypothesis that a low interest rate policy contributed to the crisis has influenced the theoretical idea that monetary policy influences the economy. Central banks’ low interest rates make banks and other financial institutions take higher risks in different ways depending on the risk-taking channel. This is a micro-based theory. The risk-taking channel influences the bank loan supply through banks’ decision to extend loans in accordance with the change in banks’ behaviour regarding credit risk. Therefore, expansionary monetary policy does not only mean increased credit but also increased credit risk.

‘Risk-taking channel’ is a general expression that represents different types of mechanism, rather than a specific and well-defined monetary policy channel (Apel and Claussen 2012). The central bank’s influence on the interest rate is significant for banks’ risk-taking. There is extensive research on the empirical links between different interest rates and banks’ risk-taking. The research supports the hypothesis that low interest rates produce greater risk-taking. Low interest rates should also reduce the risk in banks’ portfolios in the short term and increase it in the long term. Low interest rates may increase banks’ balance sheets and the vulnerability of the banking system and the macroeconomy to shocks, but this is not always the case. The balance sheet can be expanded without riskier credit. The risk-taking channel, however, is
based on individual banks that take higher risks, and the theory uses the behaviour of a representative bank.

Some authors believe that the focus on financial stability may help mitigate the unintentional consequences of monetary policy. Unconventional monetary policy uses several significant transmission channels to influence financial stability. The risk-taking channel increases risky interest rates; others use portfolio changes to influence prices and yields in financial markets (portfolio effect), while the duration channel uses interest rate growth to significantly reduce bond and share prices. As a consequence, prices show a boom and bust tendency, while inflation expectations grow. Amending monetary policy using macroprudential policy has been proposed to make more room for the effects of monetary instruments and to reduce conflict of interest in monetary policy (Ittner 2017).

The literature (e.g., Borio and Zhu 2008) suggests three mechanisms that explain the risk-taking channel. According to the first mechanism, which refers to the valuing factors (income and cash flow), interest rate decline increases at the same time as the perception of asset prices and the potential for profit. When monetary policy is expansionary the consequence is that economic actors increase their risk-taking behaviour. The second mechanism represents the relationship between interest rates and target (nominal) rates of return. Declining interest rates should increase the money illusion concerning ownership of assets that is associated with the sticky rate of return. As a consequence, risk-taking behaviour is encouraged. The third mechanism covers the positive effects of central bank transparency. More central bank transparency should remove future uncertainty and reduce the risk premium. The consequence is that risk-taking behaviour is enhanced (Borio and Zhu 2008).

According to the authors such as Juhro (2014), the global financial crisis has shown the crucial importance of the financial sector to macroeconomic stability because of the occurrence of excessive procyclicality. The complexity of the problem that causes procyclical behaviour influences the efficiency of the monetary policy transmission mechanism. The empirical research of Nier and Zicchino (2008) points to this relationship and proves that monetary policy stance influences a bank's loan supply, starting from its influence on the balance sheet and transmission through bank losses, which are bigger during a crisis period. In a period of economic crisis the financial sector is stronger. The aforementioned authors demonstrate the link between monetary and financial stability and the monetary policy transmission mechanism (Graph 1).
The relationship between financial and monetary stability is explained in the following way. In conditions of expanding economic activity and increased optimism, monetary policy initiates risk-taking behaviour. The consequence is an increase in demand for loans and in asset prices. The adaptation of financial variables allows financial stability. The aforementioned changes in the financial sector will influence economic growth and employment, which are directly linked to monetary stability. Monetary policymakers will monitor changes in monetary and financial stability through the feedback rule in the domain of macroprudential policy. Monetary policy reaction in conditions of uncertainty and conflict (trade-off) also needs to be flexible as it chooses between targeting monetary stability and the stability of the financial system.

4. THE OPERATIONAL APPROACH TO STABILITY WITH SYSTEMIC AND INSTITUTIONAL DIMENSIONS

Financial stability is when the financial system carries out its basic functions (transfer of capital, payment services, managing risk) safely and efficiently, which should be beneficial to the whole economy. For example, Sweden's central bank, Riksbank, implements monetary policy and maintains price stability and the stability of the financial system, i.e., improves the security and efficiency of the payment system, in accordance with the Sveriges Riksbank Act. In implementing monetary policy, Risk-
bank’s Executive Board defines the repo rate, which influences interest rates for borrowing from banks. Financial stability is achieved by ensuring liquidity in the banking system, and banks, apart from allocating capital, may improve the efficiency of payment transactions. The need for a public safety net arises from the moral hazard, which can cause excessive risk-taking and undermine trust in the financial system.

According to the IMF (2013), the newly established paradigm is that both monetary policy and macroprudential policies are used for countercyclical management. With monetary policy focusing primarily on price stability and macroprudential policy primarily on financial stability, microprudential policy deals with the security and sustainability of individual financial institutions. The macroeconomic policy framework is seen as successful in stabilizing the economy during periods of significant ‘moderation’. The financial crisis initiated reconsideration of the monetary policy framework’s primarily aim being the maintenance of price stability. This concept had turned out to be inadequate for maintaining financial stability, with negative consequences for price stability. The concept of macroprudential policy is accepted because of the need for a systemic approach to financial stability, but the need to strengthen microeconomic policies has also been accepted.

The IMF’s latest global analyses indicate that financial stability improves in conditions of reduced macroeconomic risk, reduced concern for economic and financial stagnation, and better expectations regarding higher growth, inflation, and long-term interest rates (IMF 2016). Graph 2 shows a map of global financial stability according to risks and conditions. Changes are monitored for the period October 2016 – red lines (Global Financial Stability Report, GFSR) to April 2017 – green lines (GFSR). The shaded part of the map shows the global financial crisis as presented in the April 2009 stability map. Departing from the centre of the map leads to higher risks, easier monetary and financial conditions, and stronger inclination to take risks.

The financial system of the USA potentially faces serious problems. The last round of stress-testing suggested that the tested banks “would experience substantial losses” but that, generally speaking, the institutions “could continue lending to business and households, thanks to the capital built up by the sector following the financial crisis”. Under the least favourable scenario, which includes stress in the corporate loan markets and a 35% drop in commercial real estate prices, it has been estimated that banks would lose 493 billion dollars during a period of nine quarters. The Fed’s intention to allow banks to return capital to shareholders (and over 100% of profit) under the Dodd-Frank Act points to a major change in trust regarding big banks and regulators. The problem is that institutions might start reducing their capital positions. In addition, the 222 trillion dollar exposure of 25 leading American banks in derivatives contracts equals approximately 12 times the GDP of the USA, and that is happening now when share prices are increasing and the USA financial system is reasonably stable.
Recently, the sudden implosion of Spain’s sixth biggest bank, Banco Popular, has been compared to the collapse of Lehman Brothers. The damaging collapse was mitigated by a one-dollar takeover by Banco Santander. The average loss to investors in shares and bonds was 3.3 billion euros. In conditions of uncertainty and mistrust in the Spanish banking system, further bank crashes are expected. In the meantime, Liberbank shares fell and the Spanish authorities conducted a short sale of the bank’s shares, which led to a short-term recovery of the share price. A much more serious bubble has appeared with Italian government bonds with negative yields, which should not exist in a free market. The ECB strategy was to purchase the Italian government bonds, which led to disagreements in the EU about whether such financial systems should be saved. Insolvent Italian banks, government bond crashes, and the impossibility of financing the Italian government have created a very unfavourable financial environment in the EU.

Based on the agreement-creating European Monetary Union (EMU), price stability was defined as the primary goal of Eurozone monetary policy, and the European Central Bank (1998) adopted a quantitative definition of price stability with the focus on a low but positive inflation rate. The underlying principle is that the inflation rate is an adequate buffer against the short-term nominal interest rate reaching zero. It also refers to the possibility of a more moderate adaptation of relative prices and wages in monetary union countries that are characterised by a high level of declining rigidity in nominal wages. Relative inflation stability has not been reached for many years, at the expense of bigger fluctuations in aggregate output. However, with the financial crisis, output instability increased significantly. The literature (e.g., Smets...
2013) suggests that there is evidence that in regimes focused on price stability the real effects of the financial crisis were significantly mitigated.

The European Central Bank defines financial stability as “a condition in which the financial system – comprising financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities” (ECB, FSR 2009). Graph 3 presents the new institutional framework of the EMU. According to a more recent paradigm, monetary policy and macroprudential policies are used for countercyclical management. Non-standard instruments of monetary policy are not contrary to the instruments of macroprudential policy. Maintaining financial stability is important for the efficient functioning of the financial system and an effective transmission mechanism, which are in turn important for reaching price stability more efficiently.

**Graph 3: New Policy Framework in the Euro Area**

![Graph 3: New Policy Framework in the Euro Area](image)

Source: Smets 2013, p.122.

Starting from the 2008 global financial crisis, some researchers (e.g., Mester 2016) have suggested that due to the complementarity of the goals of monetary and financial stability (e.g., price stability), financial stability is important for central banks. Financial stability should not be added as another goal of monetary policy. Instead of discretion, the creators of monetary policy need a systemic approach to the implementation of financial stability policy. Expanding monetary policy increases the possibility of financial instability and it is therefore important to understand the sig-
nificance of the link between monetary policy and financial stability. Macropruden-
tial policy selects tools for reducing the possibility of instability and limiting damage 
in conditions of shock. At the same time, it is important to present macroprudential 
policy in a clear manner.

5. CONCLUSION: LINKS BETWEEN MANDATES AND POLICIES

The evolution of the role of central banks has been influenced by changes in the 
-economic, political, and ideological environment. Explicit legal mandates determine 
the central banks’ role. The collapse of the Bretton Woods system resulted in the 
implementation of monetary policy. The crisis of 2007–2010 further promoted the 
function of the lender of last resort, payment system oversight, and bank supervision. 
Central banks have different definitions of financial stability, banking supervision 
does not always exist, and financial stability is sometimes not explicitly expressed as 
a legal mandate. There is also the opinion that low and stable inflation and trust in the 
currency should be necessary additions to full employment in the long term. What 
for several decades had been the dual mandate of some central banks was expanded 
during the global financial crisis to include the activity of ‘lender of last resort’, as in 
the case of the Federal Reserve.

There is a fundamental link between the three crucial mandates, but in a context of 
conflict and complementarity (synergy), and depending on the time horizon and 
context. In the long run, monetary stability exists alongside financial stability and 
as a basis for full employment. Monetary policy may be improved by macropruden-
tial tools in order to maintain financial stability. In the short term there is potential 
conflict between monetary stability and full employment. Bearing in mind the short-
term conflict (trade-off) between inflation and unemployment, before the crisis some 
central banks (specifically the Federal Reserve) did not focus on the mandate of full 
employment, with the declared reason of possibly creating confusion in the public. 
The mandate of full employment has allegedly provided assurance that price stability 
will not have a negative impact on other important economic goals.

The crisis focused on the need for better understanding of the linkage between the 
financial sector and the macroeconomy. In economic theory and in practice these 
two closely linked types of stability are so integrated that it is impossible to distin-
guish between them. Monetary authorities have explicitly accepted the importance of 
considering financial stability when they decide on monetary policy. There remains 
the problem of reducing distortive incitements in the conditions of the central bank’s 
obligation to respect financial stability. In other words, there is an expressed potential 
conflict between the two concepts of stability. Regardless of the fact that the central 
bank contributes to financial stability primarily through unconventional measures, 
the primary goal should be price stability.
Some analyses have suggested that when the economic cycle is led by supply shocks (a ‘normal’ period), macroprudential policy is moderately more beneficial to macroeconomic stability than an exclusively monetary policy approach. The policy conflict and suboptimal results are consequences of a lack of cooperation between macroprudential authorities and the central bank. Accordingly, macroprudential policy may be of use in conditions of financial shock and housing market shock, which are essential for economic dynamism. With its support for macroprudential authorities the central bank should set wider goals to improve overall economic stability rather than just price stability. However, the primary goal of macroprudential policies must be limited to accumulating financial risk in order to reduce the possibility and mitigate the influence of a financial crash. The second goal is strengthening financial sector resistance.

There is an obvious need for a separate and joint assessment of the efficiency of macroprudential and monetary policies, starting with their role in preventing vulnerability. The proof shows that due to shadow banking, macroprudential policies have a direct impact on a limited set of financial institutions, with limited international influence and potentially long delays in implementation. Macroprudential policy, however, is inefficient in complex financial systems with banking and non-banking financial intermediation. The proposed reason is the possibility that limitations imposed on regulated companies may redirect activity towards the unregulated sector. On the other hand, monetary policy influences financing conditions for all intermediaries, and exerts more rapid global influence. The growth of vulnerability and, generally, the occurrence of financial crisis (due to unfavourable shocks) is the consequence of risk-taking and expansionary monetary policy.

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THE RESURGENCE OF PAST ECONOMIC THEORIES IN THE POST-RECESSION ERA OF SECULAR STAGNATION

Aleksandra Praščević*

Abstract: The paper examines how the last global economic recession and the weak economic recovery have led to a call for new policymaking based on the revival of past economic doctrines; primarily Keynes and Keynesian doctrines, but recently, and even more controversially, mercantilism. This paper asks to what extent the last global economic recession (2007–2009) and the ‘age of secular stagnation’ are related to conceptual errors in economic policymaking rooted in dominant macroeconomic theory. This theory is based on the macroeconomic consensus known as the ‘new neoclassical syntheses, an uncritical acceptance of the classical macroeconomic paradigm and abandonment of the concept of full-employment capitalism. Many policymakers responded the global recession by abandoning neo-classical doctrine and accepting pragmatic Keynesianism. However, classical economics rapidly returned to policymaking, connected to the implementation of austerity measures in the period when economic recovery was weak and fragile, making it impossible for most economies to achieve full employment and satisfactory growth. Today, the uncertain recovering many advanced economies is important in explaining the rise of political populism, with anti-establishment and anti-liberal ideas in leading economies connected to economic nationalism and protectionism, elements of long-abandoned mercantilist doctrine. Although this revival of mercantilism is ignored in contemporary economic theory, it is present in announced economic policy (for example, in the economic policy of US president Donald Trump), making the challenges and risks of the global economy in the age of secular stagnation even more unpredictable. The tendency towards economic nationalism and political populism in western democracies is a reaction to governments’ failure to handle current economic problems adequately. Neoliberal globalization is seen as responsible for the worsening economic situation that many people are experiencing, as well as for the improved position of developing countries (emerging markets and economies in transition). However, some very successful economies are not following the neoliberal economic model, but rather the opposite mercantilist model. The most explicit example is China's economic strategy, which could be categorized as economic mercantilism with autarkic goals. In response to China's economic policy, President Trump espouses similar economic measures in the US. Because the global economy remains trapped in slow economic growth it is necessary to use pro-growth policies in order to realise economies' long-run growth potential, but not to extensively use mercantilism, which could negatively influence the global tendencies of capital movement and economic growth. However, the last crisis and post-recessionary economic trends have confirmed that theoretical disputes about the way the capitalistic economic system functions and the role of government remain important, and that the ongoing struggle between ‘liberal’ and ‘mercantilist’ approaches has entered a new phase.

Keywords: Keynesianism, Secular stagnation, Mercantilism

JEL: B22, B11, P16
Field: Economics

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1. INTRODUCTION

The history of capitalism is one of changing characteristics and different forms: economies with more or less competitive markets, with less or more regulation and state intervention, and with a more liberal approach to foreign trade or with protectionism and economic nationalism. Economic theory and concepts have changed. Along with these differences in the form of capitalism, many of the changes in the capitalist system and economic theory have been connected to major economic crises. Cyclical economic downturns cause great problems for both economic policymakers and economic theorists.

The Great Depression of the 1930s resulted in the revolutionary theory of John Maynard Keynes and modern macroeconomics, and, in terms of policymaking, in state-interventionist capitalism. The Keynesian concept of preventing high unemployment through aggregate-demand management and fiscalism dominated economic policymaking until the 1970s, when an unusual recession, accompanied by high and persistent inflation, led to a shift in macroeconomic theory and economic policy. Inflation was now seen as the key macroeconomic problem, and this started the monetarist ‘revolution’ in macroeconomic theory, bringing decades of domination of the neoliberal paradigm and the intellectual monopoly of radical anti-Keynesianism, based on the macroeconomic consensus known as the ‘new neoclassical synthesis’ – actually an uncritical acceptance of the classical macroeconomic paradigm.

In the recent development of macroeconomics there have been two waves of the revival of Keynesianism. The first wave coincided with the start of the global recession, when policymakers around the world responded quickly and substantially by implementing Keynesian contra-cyclical measures in order to overcome insufficient aggregate demand and to boost economic activity. The macroeconomic consensus known as the ‘new neoclassical synthesis’ was abandoned and ‘pragmatic Keynesianism’ penetrated policymaking.

However, the Keynesian comeback was neither uncontroversial nor fully successful. The economic recovery which started in the US in 2009 was not strong enough to return advanced economies to their pre-recession trend and to overcome the public finance problems resulting from the implementation of massive packages of fiscal stimulus in accordance with Keynesian prescription, and a classical comeback began in mid-2010. Fiscal consolidation programmes (‘austerity measures’) were implemented in many economies in response to rising budget deficits, which, however, combined with recessional effects to result in a double-deep recession in many UK and eurozone economies post-2010. The negative effects of fiscal consolidation programmes on output and economic growth in already depressed economies resulted in the second wave of the revival of the Keynesian tradition in macroeconomic theory and economic policymaking. This time it was connected to the secular character
of the ongoing stagnation and to the pro-growing, unconventional economic policy measures that should be taken.

The term ‘secular stagnation’ was re-introduced into macroeconomics in order to explain the state of the global economy. The term was originally proposed by prominent Keynesian economist Alvin Hansen (1939). In the late 1930s, after the Great Depression, he was worried that there would not be enough investment demand for future economic growth, taking into account demographic tendencies in the USA. He proposed a monetary explanation of and solution to insufficient investment demand. Just as in Hansen’s theory, today’s secular stagnation indicates that the current anaemic recovery is not simply a problem of low economic growth but is a specific self-generating economic phenomenon that confirms that capitalism is an unstable economic system which does not guarantee the achievement of sustained full employment without an active government economic policy.

In addition to the unsurprising Keynesian comeback in economic policy, mercantilist ideas have also been revived. This revival was also mostly influenced by the global economic problems of slow economic recovery and long-lasting stagnation and is associated with ambitious goals (primarily in the US and EU member states) that include substantial changes in the existing social and economic model.

At the heart of the mercantilist approach is an insistence on economic nationalism and protection of the national economy (primarily national industries) through the implementation of a ‘pro-business state’ model with the goal of promoting domestic economic growth and national power. According to mercantilism, states can be seen as subjects of international competition, so the concept of competitiveness can be applied not only at the micro-level but also at the macro-level in the form of national competitiveness. Both state and government should play decisive roles in the improvement of national competitiveness.

However, in contrast to the Keynesian revival, which emerged from theoretical disputes in modern macroeconomics, the appearance of mercantilist elements is strongly connected to political movements in advanced economies resulting from the economic problems of slow growth, a persistent employment gap, high unemployment, job insecurity, and stagnant real wages. Additionally, the problem of competition between states in times of secular stagnation and intensive globalization has become even more significant due to the fact that global aggregate demand is suffering and improving national competitiveness is seen as an important economic goal.

Overcoming the causes of the slow recovery is problematic, especially from the workers’ perspective. Neoliberal globalization and sensitivity to global markets have weakened the economic and social status of many people in developed and industrialized countries, resulting in a loss of faith in the future and in the old capitalist model. People are disappointed in how free-market policymakers and institutions are han-
dling current economic and social problems, leading to politicians offering new and simple solutions that can be easily understood by voters. However, such simple solutions have given rise to populism in political and economic policy in many advanced western democracies, primarily on the political right.

These topics are the focus of the following analysis. The paper first discusses the revivals of Keynesian doctrine during the global recession and the secular stagnation of the post-recession era. It then discusses the factors that caused the rise of populism and mercantilism in advanced economies. The paper makes a comparative analysis of the advantages and disadvantages of two opposing schools of economic thought, liberalism, which advocates more state intervention, and mercantilism, which rejects it.

2. THE REVIVALS OF KEYNESIANISM – FROM THE COLLAPSE OF FULL-EMPLOYMENT CAPITALISM TO THE POST-CRISIS ‘AGE OF SECULAR STAGNATION’

Free market macroeconomics predominated from the 1970s until the global economic recession of 2007–2009, a period when macroeconomic trends in industrialized economies were relatively smooth and were characterized by economic expansion, full employment, and infrequent economic recessions. These positive economic trends meant that, until the latest economic crisis, during recessions the economic slump in the business cycle was weaker on average and economic expansions became longer and recessions shorter. These characteristics were attributed to successful economic policymaking based on monetary and fiscal policy rules conducted in accordance with monetarist and New Classical concepts of economic policy, implemented as part of the political project of neoliberal globalization.

The global economic recession ended these economic trends, leading to a decline in GDP. The global recession that resulted from the financial crisis turned out to be the most severe worldwide economic contraction since the Great Depression. Ten years later, GDP has still not resumed its pre-crisis trend and the depressive effects of slow recovery are still present. Both the experience of global recession and the fact that the economic recovery is not going well have shaken the dominant macroeconomic consensus in both economic theory and policymaking. Many economists have returned to the theory of John Maynard Keynes and macroeconomic concepts in the Keynesian tradition (from several Keynesian schools). Therefore the theoretical foundation of new policymaking is not concerned exclusively with fiscal policy but also with monetary policy. Keynes’ primary concern was monetary policy (a monetary cause needs a monetary solution), which macroeconomics had forgotten ever since Keynesianism was wrongly equated with fiscalism. Such changes should mean the abandonment of the neoclassical approach in policymaking and the acceptance of the more significant and unconventional roles of monetary and fiscal policy and state
intervention in promoting the well-being of the national economy. However, it has proven easier to change economic theory than economic policy, which is still wedded to conventional macroeconomic wisdoms in accordance with the five basic classical macroeconomic neutralities: 1) the life-cycle hypotheses, 2) the Modigliani–Miller Theorem, 3) the natural rate hypothesis, 4) the rational expectations hypothesis, and 5) the Ricardo-Barro equivalence theorem (Akerlof 2007, pp. 6–7).

2.1 THE END OF THE FULL-EMPLOYMENT CAPITALISM AND THE RISE OF RADICAL ANTI-KEYNESIANISM

The abandonment of the concept of full-employment capitalism (Kalecki 1943) in the 1970s with the triumph of the classical paradigm over Keynesian macroeconomics represented not only the rejection of full employment as a legitimate objective of capitalism but also a radical change in the relationship between labour and capital and an ideological shift in managing the capitalist system, diminishing the importance of labour (i.e., the working class) that had dominated during the post-war development of the Keynesian welfare state. Instead of full-employment capitalism a free-market economy model was promoted in which market solutions were seen as the only answer to high unemployment and various several concepts justified the existence of unemployment, such as the non-accelerating inflation rate of unemployment (NAIRU) (Praščević 2016).

From the 1970s until the recent global recession the success of free market macroeconomics and the intellectual monopoly of radical anti-Keynesianism were primarily based on fact that economic declines in the business cycle during recessions became less extreme on average, thus reducing cyclical fluctuations in employment. Paradoxically, this success was also buoyed up by the debt crisis and significant macroeconomic instability, with several episodes of hyperinflation in Latin American countries, and also by the collapse of the Soviet bloc and the process of economic transition and political democratization in the former communist European countries. In this context the 'Washington Consensus' is of particular importance, because due to its simplicity and clarity it became the framework for successful economic policymaking around the world, and it has often been used as a synonym for mainstream macroeconomics and the market-oriented model of development. Before the global recession, reduction of variability in economic activity and reduction of inflation were considered to be the most important positive results of the modern macroeconomics.

During the long domination of the new neoclassical synthesis in mainstream macroeconomics, the main macroeconomic goal of policymakers has been achieving price stability. The backbone of economic policy has been monetary policy, rather than the fiscal policy that was predominant during Keynesianism. The consensus among academics and policymakers behind the implementation of monetary policy follows
nine ‘scientific’ principles, mostly in accordance with the new neoclassical macroeconomics: “1) inflation is always and everywhere a monetary phenomenon; 2) price stability has important benefits; 3) there is no long-run trade-off between unemployment and inflation; 4) expectations play a crucial role in the macroeconomy; 5) real interest rates need to rise with higher inflation (Taylor principle of price stability); 6) the time-inconsistency problem is relevant to monetary policy; 7) central bank independence improves macroeconomic performance; 8) commitment to a strong nominal anchor is crucial for promoting price and output stability; and 9) financial frictions play an important role in business cycles” (Mishkin 2010, p.3).

Independent central banks conduct monetary policy according to certain monetary rules. Similarly, several rules have been defined as fiscal rules. Most of them are related to the determination of numerical limitations concerning budgetary aggregates, imposing long-lasting constraints on fiscal policy. For many years before the global recession, fiscal policy had not been used for short-run macroeconomic stabilization because monetary policy had been seen as more flexible and more independent. However, the global crisis taught a few lessons concerning fiscal policy: 1) fiscal policy could be an important measure for short-run stabilization, 2) there is strong evidence that fiscal policy is effective, 3) fiscal space is valuable in order to compensate for the fall in aggregate demand, and 4) political economy considerations are especially important in understanding fiscal policy responses to crisis (Romer 2011, pp.3–6).

The global recession has caused major changes in economic policymaking, including in the goals of economic policy, which have shifted once more to achieving full employment and fostering economic activity through fiscal rather than monetary policy because monetary policy is inefficient during a recession. Right at the beginning of the recession in 2008, the ‘pragmatic Keynesians’ in the IMF announced changes to economic policymaking by including expansive monetary and fiscal policy measures, known to be countercyclical, with the aim of achieving two difficult goals: maintaining stability in the financial system and stimulating aggregate demand and hence economic activity (Praščević 2012, p.623).

At the beginning of the crisis nobody thought that the recovery would be insufficiently strong to return economies to the pre-crisis trend and that it would have such persistent effects. However, extensive packages of fiscal stimulus globally led to a significant increase in budget deficits, resulting in public finance problems which show no signs of recovering. The global recession legacy of historically high and rising fiscal deficits in both developing and advanced economies became the key reason for abandoning pro-Keynesian economic policy measures in mid-2010, when neo-classical economics made a comeback.

Fiscal stimulus was the remedy of choice in the eurozone, so that those economies experienced even more dramatic social and economic effects of the crisis than the
USA. Eurozone economies also faced the problem of having a single monetary policy without a unified fiscal policy, while the economic policies of the EU member states were uncoordinated (Praščević 2012). In the UK and the Eurozone, implementation of fiscal consolidation without structural changes while the private sector was still suffering from a lack of liquidity and pessimism resulted in a double-dip recession (Krugman 2014, p.63). Some European economies (Greece, Portugal, Spain) experienced very dramatic economic consequences in the post-recession period, with the social status of most of the population declining dramatically, and there was decreasing support for European integration across Europe (Praščević 2017a).

2.2 SECULAR STAGNATION – CAUSES AND DEFINITION

Although it is typical for economies to have very strong recoveries after deep recessions, ten years after the beginning of the crisis the global economy is still trapped in a prolonged episode of slow growth. The world economy has recorded low growth rates due to weak global aggregate demand and increasing financial market volatility in major economies. Since the beginning of the global crisis developing countries have generated much of the growth in global output because the global financial crisis has lowered the GDP trajectory in all advanced economies. In developed economies the labour market pattern has been shifting towards more involuntary part-time employment, with adversely affected wages and earnings. This proves that low levels of inflation are neither a necessary nor a sufficient condition for reducing volatility in real activity or for stimulating economic growth, which does not agree with mainstream macroeconomics.

The poor post-recessionary macroeconomic development can be defined as secular stagnation with the important features of low interest rates for a long period (Summers 2014), low inflation and very low economic growth, and the constant threat of a new recession. Some of these features are connected to the cyclical dynamic of the latest recession due to reduction in global aggregate demand, and to economic policy measures implemented during and after the recession. However, the weak recovery is also due to the financial crisis, as one of the most important sources of the steep economic downturn during the global recession. It is a well-known fact in macroeconomics that recessions with significant financial components last longer. All of these elements should be included in the understanding of the secular character of the ongoing stagnation, as well as when thinking about potential solutions.

A famous American Keynesian, Alvin Hansen, originally proposed the concept of secular stagnation (Hansen 1939; Summers 2014). According to him, during the 1930s the main problem of the US economy was how to achieve full employment. In order to do so, it is necessary to find factors and forces “in our economy which tends to make business recoveries weak and anaemic and which tends to prolong and deepen the course of depressions. This is the essence of secular stagnation – sick
recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment. … Thus we may postulate a consensus on the thesis that in the absence of a positive program designed to stimulate consumption, full employment of the productive resources is essentially a function of the vigour of investment activity” (Hansen 1939, p.4).

Hansen pointed out that growth in capital formation is of special importance for achieving full employment and that the concept of a neutral interest rate formulated by Knut Wicksell provides an explanation: “I am increasingly impressed with the analysis made by Wicksell who stressed the prospective rate of profit on new investment as the active, dominant, and controlling factor, and who viewed the rate of interest as a passive factor, lagging behind the profit rate. This view is moreover in accord with competent business judgment” (Hansen 1939, p.5).

Just as in Hansen’s original framework, the evolution of the real interest rate and its unpleasant consequences turn out to be crucial to the current debate regarding secular stagnation. During past decades real interest rates have fallen in advanced economies: average real interest rates in the US fell from 5% in the 1980s to 2% in the 1990s and to 1% in the 2000s. From the beginning of the crisis, real interest rates reached historically low levels of around –1%, including in eurozone countries. The legacy of rules and negative real interest rates across advanced economies makes monetary policy less effective in the struggle against secular stagnation; in order to restore a full-employment investment–savings balance the real rates should be negative. At the same time, such low rates could further undermine financial stability.

According to this concept, long-term stagnation may occur as the result of a growing propensity to save that is unaccompanied by a corresponding propensity to invest, but rather by the opposite – a reduced propensity to invest due to low aggregate demand. Increased savings, which imply reduced consumption, will induce a reduction in real interest rates; which, however, will not affect an increase in sustainable investment but will lead to the growth of unsustainable investments such as real estate, which in turn will result in an increase in the price of real assets and contribute to the creation of a housing bubble, or to the emergence of bubbles in general. The consequences will be the same if the real interest rate is far below the neutral rate, due to monetary expansion.

The discrepancy between savings and investment can be explained as the consequence of many factors, one of which concerns income distribution in society. If distribution favours profit rather than wages and rich people who have a lower propensity to consume and a greater propensity to save, then aggregate demand will be inadequate. The rich households save more than the poor households and the rich get richer because of growing profits, large capital gains, and high savings. The findings are even more controversial if distribution of wealth is analysed. This is the basis of
the concept of the marginal propensity to consume, established by Keynes in his explanation of ‘effective demand’.

This could have disturbing effects on changes in the levels of aggregate demand, and consequently on economic growth. It was the rise of the neoliberal concept in economics (the concept of free-market economics) that insisted on the importance of capital (instead of labour) and the abandonment of the Keynesian welfare state and full employment capitalism that intensified the problem of income distribution inequality in market economies, with long-term consequences that can be observed today as the source of secular stagnation. For several decades before the global economic recession the lack of intervention in income distribution together with tax reform worsened the position of those dependent on income from labour – the working and middle classes. However, as long as economic growth was stable and it was easy to borrow money the problem was not so evident. The global recession ended all that.

Therefore, in order to overcome stagnation the trend of an increasing share of profits going to the wealthy should be ended because during the post-recession period the growth of real wages and employment continues to lag behind even productivity growth. This is a direct consequence of the worsening situation of the working classes and the deregulation of the labour market, which is required to be more flexible in order to ensure that the national economy remains competitive. The global economic recession made the issue of unequal income distribution even more pressing, given that the global economy still faces a lack of global aggregate demand, resulting in high social costs in both developing and advanced economies.

The problem of long-term economic stagnation that is affecting the global economy in the post-crisis period is directly connected to the steady fall in long-term real neutral (or equilibrium) interest rates over the last decades. This fall can even be blamed for starting the crisis, because low nominal and real interest rates can undermine financial stability through several channels: by increasing risk-taking activities of investors, by promoting irresponsible lending, and by making Ponzi financial structures attractive (Summers 2014, p.10).

The literature offers different explanations of these trends in real interest rates, the most important of which is that distribution of income in favour of the wealthy has resulted in a greater propensity to save, and a similar effect can be found in the rising uncertainty about the duration of the working life, which has been extended by labour legislation. Consequently, people prepare for retirement by increasing their current savings (people save to smooth life-time consumption). Meanwhile, foreign central banks increasingly accumulate assets and funds made available by growing capital flight from emerging market economies such as China.
Although the secular stagnation concept as an explanation for the state of the global economy has been popular for some time, what secular stagnation really means and what should be done about it is controversial. However, leading economists from different schools of thought agree on three points concerning secular stagnation: 1) under conditions of secular stagnation a negative real interest rate is needed to achieve a savings–investment balance at the level of full employment, 2) low inflation and a zero lower bound (ZLB) on policy interest rates make full employment harder to achieve (conventional monetary policy becomes ineffective), and 3) the old macroeconomic toolkit is inadequate and new and unconventional policymaking measures are needed (Summers 2014, p.2).

2.3 SECULAR STAGNATION – ECONOMIC POLICY MEASURES FOR OVERCOMING IT

The global recession has diminished the importance of monetary policy as a tool for macroeconomic stabilization, while secular stagnation has emphasized the ineffectiveness of monetary policy as the most powerful tool for achieving full-employment because “the liquidity trap is becoming the new normal” (Krugman 2014, p.62). The main reason is that the targeted rate of inflation is too low to provide a real interest rate that will result in full employment, the so-called full employment real interest rate (FERIR) (Summers 2014), due to the ZLB on nominal interest. Instead, it only deepens the problem of financial instability, which is why fiscal stimulus will still be needed for some time to support aggregate demand, although if negative nominal rates continue it will be insufficient.

Therefore, if secular stagnation is really ‘secular’ in nature a set of pro-growth policies is necessary, some of them unconventional: more state interventionism, prolonged fiscal contra-cyclical policy, changing inflation-targeting monetary policy to a higher level of inflation (perhaps 4% instead of 2%) in order to foster economic activity, etc. These pro-growth economic policy measures include:

- Improving the education system.
- Investing in physical infrastructure.
- Removing barriers to labour mobility between firms.
- Increasing incentives for low-skilled workers to participate in the labour market.
- Simplifying procedures for starting up businesses.
- Applying anti-monopoly policies to reduce profit margins in new IT industries (Summers 2014, p.17).

These measures should improve economies’ long-run growth potential, which depends directly on the growth of productive inputs and their efficient use in production, and indirectly on several structural factors: technology, demography, education, income distribution inequality, and public debt. In the post-recession period these factors have been more unfavourable in the EU than in the US (Crafts 2014, p.91).
These measures need to be undertaken through a compromise between two opposing approaches in capitalism, private capitalism and state capitalism, which parallel the liberal and mercantilist schools in the history of economic thought (Rodrick, 2013). However, political developments in the advanced economies do not reassure that a compromise between these two approaches will actually take place. Instead, rising political populism proposes simple economic solutions, which could be identified as mercantilist in nature due to their insistence on economic protectionism and economic nationalism.

3. THE RISE OF POPULISM AND MERCANTILISM IN THE AGE OF SECULAR STAGNATION

In advanced economies, institutions’ and policymakers’ handling of the economic problems and social inequality is generally seen as failing the people, and neoliberal globalization is blamed for worsening their economic position. Since most people no longer feel that social justice is being maintained, some politicians have realized that voters want a new economic policy with a new economic and social model in which the government plays a key role in promoting the well-being of all citizens and which reaffirms the goal of full-employment which was abandoned in the ‘laissez-faire’ revolution of the late 1970s.

In some EU countries the implementation of severe austerity measures resulted in deteriorating social justice and erosion of the European social model – a combination of economic growth, high living standards and good working conditions – which were the results of long-lasting economic stagnation and lack of solidarity among EU member states. The institutional architecture of the EU was shown to have significant weaknesses. The fact that the EU could not ensure delivery of basic public services to all its citizens contributed to a loss of faith in the future economic and social progress of the EU (Praščević 2017 a, p.422).

However, in many advanced economies of western democracies, the redefinition of the role of government in the post-crisis period is connected with the rise of political populism, which includes different political elements and movements (on the radical political left and radical right) whose common characteristics are their anti-establishment orientation. Although some left-wing anti-globalization political parties have been politically successful (Syriza in Greece and Podemos in Spain), right-wing parties have had more influence on economic policymaking. These political and economic changes are partly the result of the latest global recession, and partly of geopolitical changes that have occurred in the world during recent decades.

Some of these changes are the consequence of the success of the Chinese socioeconomic model, which is based on a strong relationship between the state and business, strong protectionist measures promoting national industries, suppressed domestic
aggregate demand, and a lack of democracy. The success of the pro-business state model implemented in Asian economies at a time when low economic growth and secular stagnation are a source of serious concern in the advanced economies of the US and EU questions the efficiency of the private-capitalism model, and whether the two models of private capitalism and state capitalism can continue to co-exist at the global level.

Thus, the anti-establishment rhetoric and economic nationalism of right-wing populism has been successful in industrialized countries such as the US and EU member states, which are consolidated political democracies. Paradoxically, right-wing politics today offers more state-capitalist than private-capitalist elements, which could be result of the growing social inequality in the capitalist system during the past decades when the neoliberal approach was dominant both nationally and globally. Right-wing politics blames excessively liberal economic policies and globalization for the worsening economic position of citizens in advanced economies.

Increased support for right-wing parties resulted in the unexpected success of the ‘Brexit’ referendum in the UK, the success of anti-European integration and anti-immigrant parties in Europe (especially Central Europe), and the surprise election of Donald Trump as president of the USA. All these events introduced new uncertainties to economic policymaking, with unforeseeable economic implications, challenges, and risks in the age of secular stagnation.

3.1 THE ORIGINS OF THE STRUGGLE BETWEEN LIBERALISM AND MERCANTILISM

As mentioned earlier, in the pre-crisis period liberalism had predominated since the 1970s. Liberalism as a concept of economic policymaking started with the theory of Adam Smith and the French Physiocratism the 18th century. This was the result of economic development during the pre-classical period of merchant capitalism, and because mercantilist policy and practice was limiting development at the beginning of the Industrial Revolution. Previously the role of the state and its ruler had been decisive, with economic nationalism and state planning in the economic sphere. In the late 1700s economic conditions in the countries where classical economic ideas emerged, primarily Great Britain, were undergoing radical change. At the beginning of the Industrial Revolution in Britain liberal economics emerged which reduced the role of the state and the ruler by providing economic freedom of individual economic agents and supported universal economic laws and universal economic policy.

The arrival of the liberal theory of Adam Smith was timely. As Schumpeter pointed out, “it was the good fortune of Adam Smith to completely agree with the atmosphere of the times. He advocated the things that were already on the horizon, and his analysis should have served them” (Schumpeter 1975, p.153).
Although mercantilist analysis of economic phenomena and problems was naïve, the overall results were positive and the essence of mercantilism was not just related to the special position of money in the economic system, but more importantly to the positive trade balance of national economies (Robbins 2000, pp.47–48). To achieve this goal the mercantilists proposed a significant economic role for the national ruler (the monarch) and the national state (Jakšić and Praščević 2007). The states became main competitors for dominance and power, and mercantilist writers tried to provide explanations of this and make recommendations to facilitate it. The most important accomplishment of late mercantilists was that they recognized that the economy could be analysed (Landreth and Collander 1994, p.41).

**Table 1: The origins of mercantilism and liberalism in economic thought**

<table>
<thead>
<tr>
<th>Mercantilism: pre-classical period in Europe (1500-1750)</th>
<th>Liberalism (from 1700s): theory of Adam Smith and Classical Economists</th>
</tr>
</thead>
<tbody>
<tr>
<td>States became main competitors for dominance and power.</td>
<td>Reducing the role of the state — economic freedom of individual economic agents.</td>
</tr>
<tr>
<td>Decisive role of the state and its ruler — economic nationalism, centuries of permanent conflict and wars between countries.</td>
<td>National well-being would result from achievement of self-interest in a laissez-faire environment.</td>
</tr>
<tr>
<td>To establish the nation state — to expand territory and ensure domination over other states (and nations) in a military sense and through economic power using international trade.</td>
<td>Support for universal economic laws and universal liberal economic policy — encouraging production and market solutions.</td>
</tr>
<tr>
<td>The goal of economic activity is production. The wealth of a nation is not defined as the sum of individual wealth. Increasing the nation’s wealth by encouraging production and exports and suppressing domestic consumption. Poverty for the individual benefits the nation.</td>
<td>The goal of economic activity is in terms of national consumption. The classical vision of a harmonious economic system and the self-equilibrating nature of the economy. Self-interest of individuals causes the wealth of the nation.</td>
</tr>
<tr>
<td>The total wealth of the world is fixed. Trade is a zero-sum game in which countries lose by paying for imports (positive trade balance)…</td>
<td>Benefits at the global and national economy levels from free international trade based on international specialization.</td>
</tr>
<tr>
<td>Mercantilism: pre-classical period in Europe (1500-1750)</td>
<td>Liberalism (from 1700s): theory of Adam Smith and Classical Economists</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>- German Historical School (from 1870s): positive dimension of mercantilist ideas, Friedrich List as the father of American protectionism: expressed strong nationalist views and argued that state guidance was necessary for Germany and the US.</td>
<td>- “The myth of liberalism”? – the economic policy of the state still played a very important role in supporting business (continental Europe, US)</td>
</tr>
<tr>
<td>- The behaviour of business people pursuing selfish interests exempt from any restrictions by the state.</td>
<td>- The behaviour of business people pursuing selfish interests exempt from any restrictions by the state.</td>
</tr>
<tr>
<td>- ‘American system’— “a unique blend of government and private enterprise”: “government as an agency to assist individual and private enterprises to hasten the development of the Nation’s material resources.” (Cameron and Neal 2003, p.211)</td>
<td></td>
</tr>
</tbody>
</table>

Although the British classical economists strongly supported the new, liberal, laissez-faire policy, some elements of mercantilism continued in the following centuries. Therefore it could be concluded that a ‘myth of liberalism’ dominated, because the state imposed no restrictions on the behaviour of businessmen, who were free to pursue their own selfish interests. This does not mean that government did not support business during the development of capitalism.

In practice, especially in the USA, where “a unique blend of government and private enterprise” could be found (Cameron and Neal 2003, p.211) despite the development of a very cruel type of capitalism, the state still played a very important role in economic policy during the 18th and 19th centuries. The American system of capitalism was based on a pragmatic combination of individual freedoms and interests and saw “government as an agency to assist individual and private enterprise to hasten the development of the Nation’s material resources” (Cameron and Neal 2003, p.211).

Despite having its supporters, liberal ideas and economic policy never achieved similar success in continental Europe as in Britain, mainly because these economies were less developed and continental Europe was frequently devastated by wars and territorial conflict. Thus, in these countries the state (monarch and government) kept its key role in the economy and the laissez-faire concept was often perceived as another British attempt to impose its power and hegemony over those who had not yet reached its level of economic development. The German Historical School of the 1870s is an example of his approach and paid attention to the positive dimension of mercantilist ideas. One of the main representatives of the Historical School, Friedrich List, had strong nationalist and anti-liberal views and is considered to be the father of American protectionism. Therefore the mercantilist approach is not a concept unknown to American policymakers, economic theorists, and businessmen, or to the American people.
The rivalry between economic concepts in economic theory is many-faceted and tightly connected to general differences between private and state capitalism. Both varieties of capitalism existed during the 20th century, with several transitions from state-interventionist to more private capitalism and vice versa. There were different economic and political reasons for these shifts, one of which was the capitalist dynamic, of increasing and decreasing differences between social actors – the social classes (Wolff and Resnick 2012). Both of these tendencies were present during the 20th century and the first decades of 21st century, especially in the post-recession period.

3.2 FROM LIBERALISM AND GLOBALIZATION TO THE ‘PRO-BUSINESS’ MERCANTILIST STATE

As already mentioned, in the recent past not all countries have followed the neoliberal approach to globalization; some have implemented a ‘pro-business’ state model with more state intervention, including explicit protectionism and subsidies for national industries (Asian economies). The coexistence of these two models (Table 2) has contributed to the well-being of both sides in the past:

Liberally oriented economies where consumers occupy a central place benefited from cheap products made in economies in which exploitation of the work force coexisted with state measures such as an intensive industrial policy, manipulation of the exchange rate, weak environmental protection, etc.

Mercantilist countries generated rapid economic growth through export demand and suppressing domestic consumption.

Table 2: Differences between economic models

<table>
<thead>
<tr>
<th>MERCANTILIST MODEL</th>
<th>LIBERAL MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central place— PRODUCER</td>
<td>Central place— CONSUMER</td>
</tr>
<tr>
<td>STATE INTERVENTION – ‘Pro-business state’</td>
<td>COMPETITIVE MARKETS – ‘Free-market economy’</td>
</tr>
<tr>
<td>Corporatist approach: to fulfil common goals of state and private business - national power and economic growth</td>
<td>Advocates a strict separation of the state and private business due to the predatory nature of the state and the rent-seeking motivation of business</td>
</tr>
<tr>
<td>EXPORT DEMAND as source of economic growth – exports area measure of economic vitality, while imports are evidence of national economy dependence.</td>
<td>Macroeconomic goal is to get as large a volume of imports as possible for a smaller volume of exports. Imports can help trade and economic development.</td>
</tr>
</tbody>
</table>
Modern mercantilism or new mercantilism, which today shapes the global economy, has a specific corporatist approach in which the state and private business cooperate in order to fulfil common objectives, such as national power and economic growth. The label ‘mercantilist’ has been applied to this model in many Asian countries. The producer takes centre stage, not the consumer as in the liberal model. By helping producers (or industry) to achieve their interests the state accomplishes its own interest in fostering economic development and growth. Beside the proposition that producers should occupy the central place in this model in order to improve the production structure of the national economy, the mercantilist approach includes significant measures related to international economic policies. These measures can be summarized as protectionism regarding the country’s international trade, including the exchange rate policy, and protectionist measures in domestic production (industries), using trade agreements that are favourable to the national economy.

In contemporary mercantilism, countries fight for economic supremacy through international trade, so trade deficits are a sign of weakness in the national economy, closely connected to other economic problems such as high unemployment (especially of industrial workers due to decreasing manufacturing jobs) and slow economic growth. In contrast to the liberal approach, in which imports can help trade and economic development, the mercantilist approach insists on achieving a sizeable trade surplus, which is why states protect their home markets, subsidise their industries, and renegotiate trade agreements in their favour.

For a long time China’s economic policy has been the most explicit example of the mercantilist model, which has been the main source of China’s rapid economic and social development. Other Asian economies such as Singapore, Taiwan, and South Korea have followed similar ‘pro-business’ policies. China’s economic strategy can be categorized as economic mercantilism with the autarkic aim of domination in virtually all industries. It has two economic goals: 1) to develop and support national industries in order to expand exports and reduce imports, and 2) to ensure that Chinese-owned firms dominate the global market. As opposed to the Washington consensus, China’s economic policy is based on the ‘Beijing consensus’ as a specific model for growth and prosperity with extensive mercantilist policies. However, these policies can inflict damage on other economies, especially advanced economies, and on the future of the entire global economic system, which has been defined as a “rules-based system of market-led global trade and investment” (Atkinson 2012, p.6).

China’s current mercantilist economic policy resembles original mercantilist practice in the following ways:

- State intervention maximizes long-term producer welfare, as opposed to free-market-led maximization of short-term consumer welfare
- Production is oriented to exports, not domestic consumption
- Exchange rate policy, increased foreign currency reserves, wage controls, etc. are used to develop an economy based on export demand while suppressing domestic consumption.
- Direct state aid (subsidies) is provided for Chinese companies (not necessarily privately owned), and for companies (not only in commerce) to penetrate new foreign markets.
- Massive subsidies keep Chinese production artificially cheap.
- The national economy’s competitiveness is based on low labour costs, resulting in low production costs and absence of consumer society at the national level.
- Significant state planning is used to achieve the economic growth that strengthens the country’s position in the international political arena.
- In accordance with the economic goals of the country, public finances are kept tight to increase the national economy’s competitiveness and investment in certain economic sectors.
- State support is provided for infrastructure development, to develop transport, connect internal markets, and create conditions for the growth of transportation activities.
- An educated workforce and state investment in education, science, and research are important to develop technical and technological innovation so that China is not just copying innovations developed in other economies.
- The political system is based on strong central government (dictatorship/semi-democratic regime or the dominance of one political party; for example, the Communist Party of China), and increased internal inequality in the distribution of income and wealth.
- The initial conditions are widespread poverty (low GDP per capita), political/religious restrictions on individuals’ behaviour (including economic activity), a strong tradition of despotic governance, and a low level of education.
- The economic power of the state is a prerequisite for its political power—an imperialist policy (at the global or regional level).
- Economic prosperity is promoted at the national (rather than global) level—’beggar-thy-neighbour’ economic nationalism.

The success of China’s model has encouraged other nations to implement similar models of growth and development and to abandon the free-market approach. It is not surprising that developing nations such as India and Brazil look to the example of China and its insistence on state intervention and an authoritarian non-democratic political regime as a successful alternative to free-market capitalism. For many nations, China has become a guiding star and an alternative to the economic policy of the US and other developed western democracies. However, it is surprising, and even more dangerous, when leading economies turn to the Chinese economic model instead of limiting such mercantilist practice.
The USA and EU economies have applied a liberal approach in which consumers take centre place, and criticize the mercantilist approach, protectionist measures; explicit subsides for domestic industries, and currency manipulation, especially by China. However, the demand in industrialized economies for economic growth and more job creation has seen many politicians starting to demand mercantilist state intervention and economic nationalism. Thus, in the age of secular stagnation, their policies have been changed by economic problems in favour of the mercantilist approach, as in the maxim, “if you can't beat them, join them”.

However, the return to the mercantilist proposition of ‘pro-business state’ in politicians’ rhetoric cannot be attributed only to the last economic recession. It is also necessary to include the consequences of far-reaching geopolitical changes in the relationships of global economic power in the past decade. Thus the pro-business state model that promotes domestic economic growth and national power and is based on a mercantilist relationship between the state and the economy has been used to question the liberalism model.

That is especially true of the economic policy of US president Donald Trump, which mixes elements of Reaganomics and mercantilism. He believes that pro-business state measures will help American industries and businesses restore their competitiveness, primarily through protectionist policies and supply-side tax policies, and employ more American workers. However, the consequences of adopting mercantilist economic policies are still unclear, and the policies themselves are questionable, as once the populist rhetoric is demystified it proves to be based on utopian assumptions and unrealistic conclusions. It is almost impossible to implement such mercantilist policies in advanced economies, and not only because of their institutional structure. Many other constraints such as market structures, industrial networks, and the legacy of liberal ideas and behaviours prevent such a shift in policymaking.

3.3 US ECONOMIC POLICY IN THE AGE OF TRUMP

The unexpected election of Donald Trump as US president signified changes in US economic policymaking. Some of these changes resemble mercantilist ideas and practices (economic and political). The new administration has suggested novel but unclear economic policymaking priorities, some of which are very radical. They accord with populist rhetoric and promises made to voters during the presidential campaign. Trump has a very apocalyptic view of the state of the US economy in the global economic arena and its future prospects, and is resolute in implementing a nontraditional approach to governing. In his inaugural speech he promised that, “Every decision on trade, on taxes, on immigration, on foreign affairs, will be made to benefit American workers and American families. We must protect our borders from the ravages of other countries making our products, stealing our companies, and destroying our jobs. Protection will lead to great prosperity and strength … We will
bring back our jobs. We will bring back our borders. We will bring back our wealth. And we will bring back our dreams” (Bown 2017, p.9).

Many of these promises accord with mercantilist model rather than the liberal economic model and the liberal political project. His arguments have a strong anti-establishment and anti-globalization orientation, and contain anti-liberal ideas that undermine the traditional American economic and political model. He has announced potential changes to healthcare, taxation, financial sector regulation, central bank independence, immigration, trade policy, and international cooperation. Although he does not have the full support of the Republican Congress for some of his economic policies he can take many actions unilaterally, for example, implementing significant reversals of prior trade-opening schemes. His plans include raising trade barriers and imposing additional taxes on US companies that move production offshore, as well as building a wall along the US border with Mexico. These radical ideas could have disturbing effects.

A radical reshaping of US economic policy towards a pro-business state and mercantilist approach would include the following:

1. A more corporative approach to politics, including economic policy, with intensive cooperation between American business and the American state.
2. Tax reform, including changes to individual taxes and changes to business taxes.
3. Job creation for American workers and improvement of national competitiveness and American economic growth.
4. Helping American companies to retain their production in the USA (imposing penalties on those who move their production abroad).
5. There negotiation of trade agreements in favour of America by imposing higher tariffs or import taxes (to defend against low-cost imports, primarily from China), and emphasis on the benefits of bilateral over multilateral deals in US trade policy.
6. Free trade should be “fair for the USA”, with the reemergence of ‘managed trade arrangements’, as in US trade policy before WWII.

The issue of international trade was central to the US presidential campaign and in the reshaping of economic policy. Trump’s new trade agenda resembles the mercantilist approach in many ways. He understood that international trade and immigrants could easily be blamed for many economic problems that have been facing American workers and the middle class for a long time, which is why his promise of a new approach to trade policy won great support from the American public. This approach includes the following controversial elements: 1) withdrawal from the Trans Pacific Partnership; 2) renegotiating or withdrawing from NAFTA; 3) imposing significant tariffs on imports, especially from specific economies (35% tariff on Mexican auto part imports and a 45% tariff on all Chinese imports); and 4) labelling China a currency manipulator (Handley and Limao 2017, p.142)
His commitment to the introduction of tariffs as the best solution for eliminating high imports is in accordance with the common but not provable view that exports are a measure of economic vitality while imports are evidence of national economy dependence, in the manner of mercantilist thinking. Such opinion ignores the views of the dominant neoliberal economic paradigm, according to which the macroeconomic goal should be to increase the volume of imports for as small as possible an amount of exports.

The next question that bothers the US president, which is also in line with the mercantilist tradition, is his preoccupation with how money flows from the USA to China (or Mexico, for example), as the wealth of the nation is in the quantity of money. In so doing he does not take into account the difference between the standard of living in the USA and in other countries. Most US citizens measure their standard of living by how much wealth (goods and services) they consume. They are not interested in how much money they hold. Thus, imposing tariffs on imports and making American factories produce in America could be counter productive for most US citizens because prices will rise and their standard of living will decline. This would not be well received; nor would a policy of controlling domestic demand and raising the competitiveness of the USA economy by reducing the wages of American workers (Praščević 2017 b).

However, the proposed new approach to trade policy could have the opposite effect and reduce US trade, with significant redistribution effects. The reduction in trade-related investments could increase consumer prices so that the final effect on overall US economic growth and the American people would be negative. At the same time, it could cause “a trade cold war that increases uncertainty and threatens the world trading system” (Handley and Limao 2017, p.141). On the other hand, it is not clear how these measures are going to increase the competitiveness of the American economy without significantly lowering wages in order to reduce production costs. Measures that insist on national competitiveness by providing the cheapest possible goods can have negative results on wages, working conditions, and workers’ rights. Thus, the announced mercantilist policy could worsen the position of American workers even more than the process of neoliberal globalization did in the past.
Table 3: Possible effects of potential changes in US economic policy towards a mercantilist approach

<table>
<thead>
<tr>
<th>Question</th>
<th>Effect at national and global levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would intensive mercantilism in US policy influence the global tendencies of capital movement?</td>
<td>There would be a decrease in economic growth and welfare globally due to possible mistakes in the global allocation of finances (savings).</td>
</tr>
<tr>
<td>How would the new US trade agenda affect US and global trade?</td>
<td>Unilateral policies, renegotiation or withdrawal from agreements, and threats to impose import protections could significantly reduce US trade. The new trade agenda could also generate a trade cold war that increases uncertainty and threatens the world trading system</td>
</tr>
<tr>
<td>How would the owners of capital (the economic elite) react to mercantilism?</td>
<td>They could reject mercantilism because it reduces their economic gains. This would decrease political support for the president’s economic policy because in the democratic system of highly industrialized countries, politics are tightly connected with economic elites.</td>
</tr>
<tr>
<td>How would the concept of a pro-business state help American workers and the middle class?</td>
<td>By insisting on national competitiveness in the provision of the cheapest possible domestic goods, the reshaping of the US policy could have negative implications for wages, working conditions, and workers’ rights, thus worsening the position of the American working and middle classes.</td>
</tr>
<tr>
<td>How would the concept of a pro-business state influence economic agents?</td>
<td>According to the concept of a pro-business state, the state and private business should cooperate and work together to achieve common goals, based on the privileged position of producers rather than consumers. Such a policy could encourage rent-seeking behaviour of American businessmen.</td>
</tr>
<tr>
<td>How would mercantilist practice influence global economic well-being and tendencies in global politics?</td>
<td>The implementation of mercantilist policies in the US could have far-reaching effects on other economies in both the short- and long-run, as well as on global politics.</td>
</tr>
</tbody>
</table>

Taking into account the possible effects of the reshaping of US economic policy (Table 3), it can be concluded that although the US president has received support from the US middle and working classes because they accepted his explanation that workers from countries without a liberal economic policy were responsible for their poor economic status, his policy could in fact be at their expense, by decreasing their living standard and economic prospects. On the other hand, American businesses could be concerned by the consequences of planned measures to restrict the free movement of capital, which allows for the maximization of profit. They might be interested in
direct government support for certain industries and companies through state intervention, and also in putting pressure on the Chinese to change their policies. This could result in rent-seeking activities through lobbying, which could also worsen the economic performance and national competitiveness of the American economy. Therefore it can be concluded that the only people who will benefit from these policies are the rich, at the expense of the middle class and the poor (Praščević 2017 b). Thus, today the American Dream is under even greater threat than before, and such disastrous outcomes should be avoided.

4. CONCLUSION

Secular stagnation in the post-recession era has been a serious source of concern in many advanced economies for a long time, not only for academics but also for economic policymakers. The unexpected recession and weak recovery resulted in a revival of past economic doctrines as the basis of new policymaking, primarily connected with two waves of revived Keynesian doctrine in macroeconomic theory and economic policy. The secular stagnation concept emerged from the Keynesian approach to explain the importance of aggregate demand in achieving full-employment equilibrium, focusing on monetary sources that could induce a steady decline in real interest rates without a significant economic recovery but merely increasing financial instability. The conclusion that a negative real interest rate is needed to achieve full employment and that conventional monetary policy is ineffective, making unconventional policymaking measures necessary, is in accordance with this concept. Among the unconventional policymaking measures are those that could improve economies’ long-run growth potential, together with a prolonged fiscal contra-cyclical policy and changing inflation-targeting monetary policy to a higher level of inflation. Yet recently anti-establishment and anti-liberal political populism has arisen all over the world and has influenced the economic policy agendas of leading economies. These ideas are connected to the even more controversial measures of economic nationalism and protectionism. Many of these measures resemble the long-abandoned doctrine of mercantilism. However, although the mercantilist approach has improved economic performance in certain economies, for example, China, it is unlikely to be adopted by advanced economies that have implemented the liberal economic model for centuries. Instead of success, restrictions on the free movement of capital in financial markets, goods, and labour markets globally would result insignificant adverse consequences and increased economic and political conflict between countries. Therefore, instead of radical but unclear economic policymaking priorities and measures, wider social and political changes are needed to establish a new social consensus in order to consider and include the interests of all social groups. A new deal between capital, labour, and state is needed.
REFERENCES


FINANCIAL STABILITY AS ONE OF THE AIMS OF COORDINATION BETWEEN MONETARY AND FISCAL POLICY

Milutin Ješić*

Abstract: Financial stability has become one of the key goals of monetary policy in the last decade, although the primary goal is still price stability. There are numerous definitions of financial stability. Common to all definitions is the emphasis on the fact that if financial stability emerges the financial system is capable of absorbing various types of shock without radically departing from the equilibrium. The last global financial crisis resulted in the examination of some previously neglected areas, like financial stability per se, macroprudential policy, and the transmission channels of negative consequences from fiscal to monetary policy and vice versa. The aim of the paper is to research the nature of the reversible relationship between fiscal policy and financial stability and to identify the importance of fiscal and monetary policy coordination for financial stability. Irresponsible fiscal policy puts pressure on financial stability due to the emergence of negative spillovers; the systematic risk will then produce spillovers to systemic risk. Because in continental Europe and the emerging markets economies the financial systems are bank-centric, more attention is paid to the consequences of fiscal shocks for banks, and less to other financial institutions and the financial market. However, in crisis situations financial institutions will sometimes look for government intervention. In summary, financial instability cannot be resolved without significant government intervention: sometimes macroprudential measures are not enough so financial support is needed. Based on the observed relationship between fiscal policy and financial stability it is clear that fiscal responsibility is necessary and that fiscal policymakers have to leave enough maneuver space to be ready to intervene in crisis situations. The relationship between fiscal responsibility and financial stability will be analyzed in the context of various Eurozone members and Serbia.

Keywords: financial stability, fiscal irresponsibility, coordination, spillovers, macroprudential policy.

JEL: E44, E58, E62

Field: Economics

1. INTRODUCTION

The last global economic crisis showed the necessity for observing macroeconomic problems from a different perspective. Macroeconomic problems have existed for a long time, but in recent decades research has focused on the relationships between them.

Many research papers have dealt with the consequences of fiscal irresponsibility, usually focusing on its influence on inflation, interest rates, trade deficits, and growth.

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However, few papers have analyzed the interconnections between fiscal policy and financial stability.

When analyzing the connection between fiscal responsibility and financial stability it is necessary to research influences going in both directions. Irresponsible fiscal policy can influence financial stability, while financial instability can reveal fiscal imbalances. Because the development levels of financial systems vary in different countries it is necessary to research the importance of the different ways in which risk is transmitted. Transmission channels do not have the same importance in all countries. Conversely, some of the reasons for further, more-detailed analysis of these financial stability determinants are the level of financial system development, the level of fiscal policy responsibility, and the level of state and financial institutions’ credibility.

This study is structured in three parts. Firstly, the problem is analyzed from the perspective of responsibility for financial stability. We show the importance of coordination between monetary and fiscal policymakers. We then present the channels by which fiscal irresponsibility effects are transmitted on financial stability. Finally, we analyze the problem from the other side. Financial stress requires government intervention. The bottom line is the influence on fiscal variables, i.e., budget deficit and public debt.

2. JURISDICTION OVER FINANCIAL STABILITY AND THE NECESSITY FOR COORDINATION

There are numerous definitions of the term financial stability. One, accepted by the European Central Bank, is that it is a condition in which the financial system, comprising financial intermediaries, markets, and market infrastructures, is capable of withstanding shocks and the unravelling of financial imbalances (European Central Bank 2013, p.5). The focus on financial stability usually comes at the beginning of a financial crisis. During periods without financial stress, researchers do not find this topic of special interest. In order to be prepared for future financial crises it is crucial to analyse all the causes, repercussions, and conclusions that have emerged from the previous one.

Recently, a few central banks have claimed financial stability to be their main policy goal, and most of them now have it as an additional monetary policy goal. In the literature several different regimes have been developed, depending on the jurisdiction over financial stability. One of these regimes emphasizes the responsibility of central banks. For a long time the main goal of most central banks has been price stability. The widespread opinion was that price stability is the main precondition for financial stability. Price stability contributes to financial stability by eliminating inflation-related distortions in financial markets, by containing the propagation of shocks via
well-anchored inflation expectations, and by mitigating pro-cyclicality in the economy (European Central Bank 2013, p.107.).

However, it has been shown that the relationship between price stability and financial stability is complex. Shirakawa (2012) states that under specific conditions central banks have to choose between financial and price stability. In inflationary conditions the real sector and the financial sector can function with lesser or greater obstacles, but financial instability can lead to the complete crash of both sectors (Žugić & Fabris 2010, p.17.). Therefore, price stability is a necessary but insufficient precondition for financial stability.

In this relationship constellation, the central bank cannot wait for the beginning of a crisis situation. It has to prepare preventive measures. With a view to ensuring the earliest possible identification of crisis symptoms, the central bank has to:

- analyze the macroeconomic environment on an ongoing basis;
- analyze and assess systemic risk factors;
- analyze and assess the financial condition in all banks in the system;
- conduct stress testing of banks;
- identify problematic banks and request them to submit their contingency and recovery plans.

A deeper analysis is needed of the relationship between fiscal responsibility and financial stability. This connection is reversible in nature, so activating any direction in this relationship can initiate spiral effects. The spillovers from fiscal irresponsibility to financial stability and vice versa are highly visible in conditions of financial turmoil.

Many studies have been researching the spillover of risk from banks to sovereign states. By then the crisis has already begun in the financial sector and is threatening the real sector and destabilizing public finances. Kozarić & Fabris (2012) claim that in the recent period developed countries supported liberalism, but it is well known that financial markets do not incline to equilibrium by themselves. Thus, financial instability cannot be solved without government intervention. There is a need for improved macroprudential supervision and necessary financial support for system stabilization. Consequently, fiscal responsibility is necessary in order to make maneuver space for governments to react adequately in crisis situations.

However, not much research has analyzed the inverse relation – spillover of risk from sovereign states to banks and other financial institutions, i.e., the influence of systematic on systemic risk. In addition, considering that in developing countries and generally in continental Europe financial systems are bank-centric, more attention is paid to the consequences for banks’ balance sheets than for other financial institutions or the financial market.
Both monetary and fiscal policymakers can induce spillovers, so coordination between their policies is even more necessary. The type of coordination to be developed depends on country-specific characteristics. Both operational and institutional mechanisms have to be implemented. In times of financial turmoil ad hoc measures are required, but in periods without financial stress, policymakers should cooperate on an ongoing basis in order to prepare for future financial crises.

3. SPILLOVERS FROM FISCAL IRRESPONSIBILITY TO FINANCIAL STABILITY

In the situation in recent decades of fiscal rules being breached and fiscal indicators at record levels, it might be expected that a relationship between fiscal policy and financial stability would be activated. Caruana and Avdjiev (2012) state that there were three main reasons for the 2008 crisis:

- inadequate capital in the banking system.
- inadequate fiscal positions of governments.
- interconnectedness of the global financial system.

One of the most interesting and comprehensive studies of transmission channels of risk from government to banking sector is published by the research group the Committee on the Global Financial System, which is overseen by the Bank for International Settlements. The report details the mechanisms by which the public finance crisis influences banking system stability. These are:

- Effects on bank balance sheets through exposures to sovereign debt.
- Influence of sovereign downgrades on domestic banks’ ratings.
- Reduction in the value of the collateral which banks use.
- Reduced possibility of implicit and explicit government guarantees.

Besides these channels, Ješić (2013) points out two more channels that have to be analysed. First, banks sometimes suffer big losses due to the macroeconomic ambience, which is the direct consequence of irresponsible fiscal policy. Second, the stability of the financial system can be threatened by the panic triggered by atypical fiscal policy measures. These transmission channels will be analyzed in the next part of the paper.

3.1. EXPOSURE TO PUBLIC DEBT

One of the most important transmission channels of spillover from fiscal policy to financial stability is powered by an increase in the share of loans (in a broad sense) to government in a financial institution’s total portfolio of loans. By investing in government securities, financial institutions de facto connect their financial stability to fiscal stability.
The incentives for these institutions to invest in government securities or to give loans to government are analysed by Shirakawa (2012):

- risk aversion.
- regulation and supervision.
- central bank policy of monetary easing.

In the loan acceptance process, banks pay special attention to credit risk. It is commonly agreed that sovereign states have the lowest level of credit risk, followed by the private sector. However, it has become obvious that government debt is no longer risk-free (Breton et al. 2012).

Financial regulation makes government debt more favorable. This type of risky asset requires a lower amount of capital than any other. Therefore, the government makes its own securities more desirable to financial institutions through regulation.

The monetary easing policy of central banks in developed countries results in cheaper ways of financing the needs of government and the private sector. In these circumstances, financial institutions are stimulated to invest in riskier alternatives, which influences systemic risk.

While government debt is treated sympathetically, fiscal irresponsibility causes bank losses. Under the hypothesis that the market will be punished for fiscal irresponsibility by a rise in interest rates, the value of bonds bought by banks decreases. The second type of loss that can threaten financial stability is the fall in banks’ stock prices as the consequence of an increase in interest rates on government and other bonds in one financial market because of the common positive correlation.

In order to evaluate the stability of the banking sector in EU countries an EU-wide stress test of banks took place in 2016. It was conducted by the European Banking Authority, whose responsibility it is to ensure the functioning and integrity of financial markets and the stability of the EU financial system. The test covered a sample of 51 banks from 15 EU and EEA countries, 37 from SSM countries and 14 from Denmark, Hungary, Norway, Poland, Sweden, and the UK. We use data from this report in order to evaluate exposure to government debt. Because of the sample structure this is only a bleared picture of the total exposure, so conclusions have to be taken with caution.

Graph 1 presents net direct exposure to government debt in absolute amounts. Net direct positions represent the gross long positions of the banks held in the different books (trading, banking), net of cash short positions held in the trading book. Exposure is high in the UK, France, and Germany.
Graph 1: Net direct exposure

Graph 2 shows that Spanish and Italian banks have the highest exposure to government debt issued by countries in our region. However, this has to be taken with caution because of the sample structure.

Graph 2: Exposure to government debt issued by Central and Eastern European countries that are not EU members

Source: Adapted from the database of European Banking Authority (2016).
Home bias is represented in Graph 3, which depicts the share of domestic net direct exposure in total exposure. As can be seen, Poland and Hungary have the biggest domestic exposure. The level of this indicator in developed countries like France and Germany is approximately 60%.

**Graph 3: Domestic exposure**

![Graph 3: Domestic exposure]

Source: Adapted from the database of European Banking Authority. (2016).

In accordance with the theoretical postulates, exposure of banks to the public sector is high, and significantly higher in domestic banks. Holdings of domestic government bonds as a percentage of bank capital tend to be larger in countries with high public debt (Committee on the Global Financial System 2011, p.14).

Stress in sovereign bond markets has decreased, but remains contained. This can be seen from the following graph, which depicts a composite indicator of systemic stress in euro-area sovereign bond markets, combining data from the short end and the long end of the yield curve for each country.
In the previous period in Serbia, financing the debt through loans from the domestic financial market was common practice. Domestic banks and other financial institutions have found investment in Serbian debt more desirable than the other financial alternatives. Issuance of debt in the form of bills and bonds is also used, but this is not a major source of domestic financing as it is in developed countries.

**Table 1: Financing the Serbian debt from the domestic financial market (in thousands)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Currency</th>
<th>Original amount of debt</th>
<th>Current value of debt in EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury bills</td>
<td>RSD</td>
<td>800,000</td>
<td>6,495</td>
</tr>
<tr>
<td>Treasury bonds denominated in RSD</td>
<td>RSD</td>
<td>612,290,590</td>
<td>4,971,057</td>
</tr>
<tr>
<td>Treasury bonds denominated in EUR</td>
<td>EUR</td>
<td>3,100,699</td>
<td>3,100,699</td>
</tr>
</tbody>
</table>


The next graph shows that financial institutions are highly exposed to Serbian public debt. Domestic institutions are willing to give loans and invest in government securities much more than in other investment alternatives. There are many reasons for this: security, interest rates, low enforcement, development of institutions etc.
3.2. THE CORRELATION BETWEEN RATINGS OF SOVEREIGN STATES AND BANKS

There are many macroeconomic factors that influence a country’s credit rating. Considering the theoretical postulates about the influence of budget deficit on inflation, GDP, and trade deficit, it is obviously important to sustain fiscal discipline. A bank’s credit rating depends on the bank’s specific idiosyncratic conditions and on sovereign states rating.

When it comes to EU members, there is significant proof of the importance of this risk transmission channel. Since August 2007, 64% of domestic banks have had their credit ratings lowered within the six months following a sovereign states downgrade (Committee on the Global Financial System 2011, p.21.).

3.3. USING GOVERNMENT SECURITIES AS COLLATERAL

Government securities can be used as collateral in REPO transactions and other transactions between the central bank and other banks and between private transactors. A reduced value of collateral has a negative influence on the volume and number of financial transactions. If the asset was already posted in specific transactions, mark to market valuation of collateral could trigger a margin call (Committee on the Global Financial System 2011, p.17).

Weakened fiscal conditions have negatively influenced the possibility of banks collecting capital through the reduced value of government bonds. For example, in November 2010 LCH.Clearnet increased the haircuts on Irish government bonds to
45%, and in April 2011 it raised haircuts for Portuguese sovereign bonds. These haircuts were subsequently increased yet further, and were 75% and 65% respectively in June 2011 (Committee on the Global Financial System 2011, p.19).

3.4. REDUCTION OF GUARANTEE ISSUANCE

A country’s weak fiscal position can affect the perception of the risk level of some banks because of the reduced possibility of implicit or explicit government guarantees. Some banks are very important because their bankruptcy would trigger financial instability. They are too ‘big to fail’ and the government should support them in crisis situations. They are users of implicit government guarantees.

On the other hand, in crisis situations many countries are forced to give explicit guarantees. During the global financial crisis, in almost all developed countries direct capital injections into systemic banks resulted in de jure or de facto nationalization of large portions of the financial intermediation system (Kozarić & Fabris 2012, p.14.). These interventions are very expensive, and a worsening fiscal position can lead to a situation where the government can no longer support these financial institutions.

3.5. ADVERSE MACROECONOMIC CONDITIONS

Irresponsible fiscal policy induces numerous negative macroeconomic consequences. When the economy expands the financial sector is one of the biggest winners, but when a recession influences the financial sector in at least two ways. Current bank clients could have difficulties servicing debt because of decreased earnings or lay-offs, which can be seen in the trend of non-performing loans. On the other hand, augmenting the client base in a period of growing unemployment is an almost impossible mission. The whole process is amplified by money withdrawal from accounts and flight from the domestic currency. In adverse macroeconomic conditions, companies also have difficulty servicing their debts and getting new loans.

3.6. ATYPICAL MEASURES OF FISCAL POLICY

Finally, certain irregular fiscal policy measures significantly worsen financial stability and directly influence bank balances. The characteristic of this channel of influence is that they are unexpected, because they are not inherent to modern market-based economies and are usually one-off occurrences. The consequence can be banking panic, leading to instability of the banking system.

A recent example is the Cyprus crisis at the beginning of 2013. Fiscal policymakers introduced a one-off tax on deposits, causing panic among bank depositers. The authorities then imposed day limits on deposit withdrawals and closed the banks for
several days. The government later abandoned the original decision, but the measure was implemented in a revised form.

4. SPILLOVERS FROM FINANCIAL INSTABILITY TO FISCAL STANCE

The consequences of financial instability are numerous, and especially visible in periods of financial crisis. Financial crisis usually has fiscal repercussions. In order to escape this scenario, precautionary measures have to be implemented, macroprudential policies have to be developed, and financial institutions have to be monitored on an ongoing basis.

The consequences can be both indirect and direct. Indirect effects emerge if the financial system is weak and the financial process is impaired. Well-functioning markets and financial institutions contribute to growth by reducing transaction costs and asymmetric information problems, selecting profitable investment alternatives, mobilizing savings, and diversifying risk.

From our perspective, the direct consequences that can emerge through revenue effects and bailouts are more important. If the financial system is under financial stress the tax base for many types of tax related to the financial system contracts. There are many types of government intervention, such as recapitalization, loans granted to financial units, the purchase of existing assets, debt cancellation, guarantees provided to financial units, and the establishment of new units or special vehicle entities (Maurer and Grussenmeyer 2015, p.9). Some of them have an immediate effect on the fiscal position and some of them with a lag.

The following table shows net fiscal costs, totals, and cost of financial asset acquisitions in percentages of 2014 GDP. As we can see, they are highest in Ireland, Greece, Cyprus, and Slovenia. They had a significant effect on budget balance, and consequently on public debt. The financial crisis significantly contributed to the public debt in many countries, especially Denmark, Ireland, Greece, and Cyprus.
Table 2: Fiscal costs of the financial crisis in EU countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Total</th>
<th>Net acquisition of financial assets</th>
<th>Cumulated impact on budget balance</th>
<th>EDP debt impact</th>
<th>Change in government debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>3.7</td>
<td>3.3</td>
<td>0.4</td>
<td>4.6</td>
<td>19.7</td>
</tr>
<tr>
<td>DE</td>
<td>8.0</td>
<td>6.7</td>
<td>4.3</td>
<td>8.2</td>
<td>11.0</td>
</tr>
<tr>
<td>IE</td>
<td>31.1</td>
<td>7.0</td>
<td>24.1</td>
<td>22.6</td>
<td>85.7</td>
</tr>
<tr>
<td>GR</td>
<td>22.1</td>
<td>9.6</td>
<td>12.5</td>
<td>22.2</td>
<td>73.7</td>
</tr>
<tr>
<td>ES</td>
<td>5.0</td>
<td>0.6</td>
<td>4.4</td>
<td>5.0</td>
<td>62.2</td>
</tr>
<tr>
<td>FR</td>
<td>0.0</td>
<td>0.1</td>
<td>-0.1</td>
<td>0.1</td>
<td>31.1</td>
</tr>
<tr>
<td>IT</td>
<td>-0.1</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.1</td>
<td>32.4</td>
</tr>
<tr>
<td>CY</td>
<td>18.8</td>
<td>10.3</td>
<td>8.5</td>
<td>19.4</td>
<td>53.4</td>
</tr>
<tr>
<td>LV</td>
<td>5.2</td>
<td>1.9</td>
<td>3.3</td>
<td>5.5</td>
<td>31.6</td>
</tr>
<tr>
<td>LT</td>
<td>1.3</td>
<td>0.2</td>
<td>1.1</td>
<td>0.9</td>
<td>25.0</td>
</tr>
<tr>
<td>LU</td>
<td>5.5</td>
<td>5.6</td>
<td>-0.1</td>
<td>5.3</td>
<td>16.0</td>
</tr>
<tr>
<td>NL</td>
<td>4.8</td>
<td>4.1</td>
<td>0.7</td>
<td>5.5</td>
<td>26.1</td>
</tr>
<tr>
<td>AT</td>
<td>3.5</td>
<td>0.4</td>
<td>3.1</td>
<td>8.4</td>
<td>19.7</td>
</tr>
<tr>
<td>PT</td>
<td>11.3</td>
<td>8.4</td>
<td>2.9</td>
<td>11.0</td>
<td>61.7</td>
</tr>
<tr>
<td>SI</td>
<td>18.1</td>
<td>6.1</td>
<td>12.0</td>
<td>18.2</td>
<td>58.2</td>
</tr>
</tbody>
</table>


The following graph depicts the recovery rates of fiscal interventions in percentages of 2014 GDP. The recovery rates are the difference between gross and net fiscal costs. Recovery rates are high in Greece, the Netherlands, and Belgium, and low in Ireland, Cyprus, Luxemburg, Portugal, and Slovenia.

Graph 6: Recovery rates

Government exposure to financial institutions in percentage of GDP are shown in Graph 7. This illustration clearly shows that government guarantees to the financial sector were high for a long time but started to decline in 2012. However, they are significant and play a significant role in overall fiscal burden. This picture helps us to understand the relative size of the two most important parts of fiscal costs related to the financial sector.

**Graph 7:** Government exposure to financial institutions

![Graph 7](image)


The following table shows government guarantees to financial institutions. In most countries the peak year was 2009, and at the end of 2014 many governments significantly reduced the amount of guarantees provided to the financial sector.

**Table 3. Government guarantees to financial institutions**

<table>
<thead>
<tr>
<th>Country</th>
<th>Peak amount</th>
<th>Year</th>
<th>End of 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>15.4%</td>
<td>(2009)</td>
<td>9.3</td>
</tr>
<tr>
<td>DE</td>
<td>5.5%</td>
<td>(2009)</td>
<td>0.8</td>
</tr>
<tr>
<td>IE</td>
<td>190.0%</td>
<td>(2008)</td>
<td>12.9</td>
</tr>
<tr>
<td>GR</td>
<td>37.9%</td>
<td>(2011)</td>
<td>28.5</td>
</tr>
<tr>
<td>ES</td>
<td>9.9%</td>
<td>(2012)</td>
<td>5.2</td>
</tr>
<tr>
<td>FR</td>
<td>4.7%</td>
<td>(2009)</td>
<td>2.2</td>
</tr>
<tr>
<td>IT</td>
<td>5.3%</td>
<td>(2012)</td>
<td>1.4</td>
</tr>
<tr>
<td>CY</td>
<td>16.9%</td>
<td>(2016)</td>
<td>5.7</td>
</tr>
<tr>
<td>LV</td>
<td>2.8%</td>
<td>(2009)</td>
<td>0.2</td>
</tr>
<tr>
<td>LU</td>
<td>4.8%</td>
<td>(2013)</td>
<td>4.6</td>
</tr>
<tr>
<td>NL</td>
<td>12.1%</td>
<td>(2009)</td>
<td>0.0</td>
</tr>
<tr>
<td>AT</td>
<td>5.0%</td>
<td>(2009)</td>
<td>0.0</td>
</tr>
<tr>
<td>PT</td>
<td>9.5%</td>
<td>(2012)</td>
<td>3.6</td>
</tr>
<tr>
<td>SI</td>
<td>5.9%</td>
<td>(2010)</td>
<td>0.3</td>
</tr>
</tbody>
</table>

5. CONCLUSION

There is evidence of spillovers from sovereign states to the financial sector, and vice versa. Policymakers have to prepare for financial instability in ‘normal’ times by building maneuver space in order to have effective instruments in periods of crisis. Ad hoc measures used in periods of crisis usually induce fiscal costs. In order to reduce the fiscal cost of financial instability, macroprudential policies have to be developed.

The relationship between fiscal responsibility and financial stability is strong and is conducted through various transmission channels. This connection is reversible in nature. The incentive for researching this mechanism is the hypothesis that financial stability is not only determined by intrinsic factors and price stability but also by factors such as the way fiscal policy is conducted. When financial institutions are determining risk the general conditions and risk inherent to every country play a significant role because financial institutions are one of the biggest creditors of government (but government debt is no longer risk-free), government securities can be used as a collateral for numerous financial transactions. the credit ratings of sovereign and financial institutions are strongly positively correlated, government support for the financial sector influences the confidence of bank creditors and depositors, the macroeconomic ambience affects financial sector assets, and particular fiscal measures directly and immediately affect the financial system.

On the other hand the fiscal cost of bailouts and other types of government intervention are high. In the future emphasis should be put on preventing these unfavourable processes, especially in countries with under-developed financial systems. It is necessary to further illuminate the relationship between monetary and fiscal policy in both directions, in order to define precisely the responsibility for financial stability and to prepare for crisis situations. Because of the financial system framework, financial stability should be seen as one of the aims of coordination between monetary and fiscal policy.
References


THE EFFECT OF EMPLOYMENT PROTECTION LEGISLATION (EPL) ON MARKETS WITH DIFFERENT LEVELS OF COMPETITION

Dejan Trifunović* and Maja Jandrić**

Abstract It is widely recognised that employment protection legislation has important effects on firms’ hiring and firing decisions. However, relatively little is known about the differentiated impact of employment protection legislation (EPL) on employment level and welfare in different market structures. In order to determine the effects of EPL in markets with different levels of competition, we employ a simple model with linear demand function and Cournot competition with N firms. We assume that EPL imposes infinite costs to employer. As expected, a firm employs less labour in the time of economic boom and more labour in recessions when EPL exists than otherwise. In extreme cases, when infinite firing costs are imposed by EPL, there is no variability in employment between the two states of nature. However, the level of total expected employment in the two regimes (with and without EPL) is the same.

The results of the model imply that in the economy with no EPL, variability in the level of employment during cyclical movements for a firm decreases with the increase of firms in the market, while the variability of total employment increases as the industry becomes more competitive. This has important empirical and policy implications: EPL has larger impact on total employment variability in more competitive industries.

It is also shown that EPL can reduce welfare since firms are unable to optimally adjust the amount of labour, which reduces their profit, as well as consumer’s surplus. The larger the cyclical fluctuations, the larger the cost for firms originating from EPL. The total loss of profit decreases with N, while the loss of consumer’s surplus increases in N. The net effect is such that the loss of welfare increases with the number of firms in the market. However, by reducing unemployment fluctuations, EPL reduces unemployment benefits for workers whose jobs are affected by recession. EPL is welfare-improving if unemployment benefit is larger than the threshold value which decreases in N. Therefore, EPL is more likely to improve welfare in more competitive markets. We provide examples of employment changes, in the period characterised by the change of EPL in Serbia in industries with different market concentration, which support our theoretical findings.

Keywords: labour market, employment protection legislation, market structure

JEL: L16, J08, K31
Field: Economics

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1. INTRODUCTION

Labour market flexibility has several aspects: wage flexibility, functional flexibility, internal numeric and external numeric flexibility. In the narrow sense, labour market flexibility is often viewed through one of those aspects – external numerical flexibility, which refers mainly to the possibility of hiring and firing workers. Employment protection legislation (EPL), which, to a limited extent, refers only to the set of norms and procedures applied in the case of dismissal of workers\(^1\), is one of important elements of labour market flexibility at the macroeconomic level.

The main purpose of employment protection legislation is to set rules against unfair behaviour of employers. It also serves as a form of insurance against job loss and helps in internalising social costs of dismissals. In theory, EPL can have both positive and negative consequences on labour market performance. On the one hand, by increasing job security and encouraging long-lasting employment relationships, EPL may boost productivity, as workers are more willing to invest in firm-specific knowledge and skills. On the other hand, with very strict EPL firms may become more cautious when hiring and firing workers. In periods characterised by the decline in economic activity, stricter EPL can lead to the reduction of dismissals, while the opposite can happen in the case of revival of economy: employers will be more cautious, since there is risk that they will not be able to dismiss excessive workforce easily in the future, which is why they employ less workers than they would if EPL was less strict. This can lead to the reduction of labour turnover, e.g. movements from employment to unemployment and from unemployment back to employment (Bertola, 1992). Given that EPL reduces both layoffs and hiring, the final impact on employment is unclear. However, it is almost certain that this effect is not the same for different groups in the labour market.

Employment protection regulation is often cited as one of the main causes of labour market inflexibility, and very often blamed for poorer labour market performance. However, the literature has not yet reached a consensus on the impact of EPL on labour market. Although there is a large number of empirical studies on the impact of EPL, empirical evidence is varied.

Generally, labour economics predicts that firing costs will reduce the extent of employment adjustment to economic shocks: e.g. Nickell (1986) finds that firing costs stabilise employment during cyclical fluctuations. In other words, these costs increase employment in recessions and decrease employment in economic booms, since in the latter case firms try to avoid high firing costs in downturns. Blanchard and Wouters (2000) point out that EPL can have a negative impact on employment, as it affects the profitability of investments. Risager and Sørensen (1997) also study the impact of firing costs not only on employment, but also on investments, where the key var-

\(^{1}\) Arandarenko (2011a), p. 163.
iable is demand elasticity for final products. If demand is less elastic, the increase in firing costs considerably stabilises employment and investments are only marginally affected. On the other hand, when demand is highly elastic, the increase in firing costs has significant negative effects on average employment and investments, as high price elasticity of demand prevents the company from transferring increased labour costs to consumers. However, a large number of empirical studies do not determine unambiguously the impact of EPL on employment and unemployment levels, while they find that EPL reduces labour market flows.\footnote{For more details, see Boeri (2010) and Howell et al. (2007).}

Layard et al. (2011) also do not find a significant impact of EPL on the equilibrium unemployment rate, but they point out that there is evidence that EPL reduces the speed of adjustment in labour market. There are also arguments in support of the thesis that EPL reduces growth rate by slowing down reallocation towards sectors with higher productivity and higher growth potential (Bertola, 1994). Arguments that emphasise the fact that protected workers are more willing to acquire specific knowledge which positively affects productivity are also found in the literature (De-regulierunskomission, 1991; Franz, 1993).

In the paper that combines labour and international economics, Dewit, Leahy and Montagna (2003) use Cournot’s and Bertrand’s model to analyse the impact of different firing costs in various countries that compete in attracting foreign direct investments. The main finding of the paper is that lower firing costs serve as the source of competitive advantage in attracting foreign direct investments. In this paper, we will take another approach and try to determine the effect of EPL in markets with different levels of competition. In the general context of analysing impact of different types of institutions on labour market, a lot of recent studies emphasise the fact that institutions interact with each other (e.g. Belot and Van Ours, 2004), and also suggest that institutions which interact with each other cannot be analysed in isolation (Bassanini & Duval, 2009), as the impact of one institution on the labour market depends on the characteristics of other institutions. Avdagić (2015) states that the final impact of EPL depends on the general institutional environment and the interaction of labour market institutions and other institutions, in terms of social policy, education system and characteristics of the product market.

Interaction between product markets and labour market institutions is widely studied in literature. According to Nickell (1999), product markets tend to have strong complementarities with labour market reforms. He finds that imperfect competition in product markets would make labour market imperfections even more detrimental to employment. Amable (2009) questions this complementarity view and tests whether a joint policy of product market deregulation and lower employment protection has positive effects on employment. The results of this study, as well as Amable et al. (2007), suggest that, for higher levels of product market regulation, labour market
deregulation would be either non-significant or good for employment. However, the positive effect of deregulation disappears when product market regulation is not very high. They also find that product market regulation generally deteriorates employment, except for some age groups at very low levels of employment protection, while product market deregulation is more effective when EPL is high. Kugler and Pica (2003) show that barriers to entry reduce the effectiveness of labour market deregulation. Fiori, Nicoletti, Scarpetta and Schiantarelli (2008) show that product market deregulation is more effective when labour market regulation is high. Schindler (2009) also finds that the impact of product market deregulation on labour market is largely determined by labour market institutions.

In most studies that analyse interdependence of product market regulation and EPL, product market regulation is measured by OECD index of global product market regulation (PMR), which summarises state control, barriers to entrepreneurship and barriers to trade and investment. However, Mandakovic and Flores (2014) use the level of concentration in a sector as the measure of competition, in order to examine effects of EPL on the ability to downsize. In the context of Chile, they find evidence that, on average, an increase in the EPL index reduces the expected probability of downsizing. One of their results also shows that the level of competition in a given sector, measured by the level of concentration and relative size of the firm, did not appear to weaken or intensify the negative impact of EPL on the probability of downsizing. In the last section of the paper, we will use a similar approach in order to draw some preliminary conclusions on the difference in labour market reaction to EPL changes in sectors with different levels of competition in Serbian economy.

2. THE MODEL

The model constructed in this section is based on the linear demand function. Nevertheless, even within this simple framework, we obtained results that can be empirically tested and that also have significant policy implications. The main difference between previous models and ours is that we focused directly on market structure aiming to determine the differentiated impact of EPL. To the best of our knowledge, this is the first attempt to explore this relationship.

The main finding of the model is that the variability of employment is higher in more competitive industries where EPL brings more benefits. On the other hand, EPL reduces welfare since firms are unable to adjust the amount of labour optimally which reduces their profit, as well as consumer’s surplus. However, if the reduction of the level of welfare is lower than the amount of unemployment benefits that need to be paid to workers that lose their jobs in recession, EPL is welfare-improving. Finally, we show that EPL is also more likely to improve welfare in more competitive markets.
2.1. ECONOMY WITHOUT EPL

In our simplified economy, there are two states of nature: boom (good state) with probability \( p \) and recession (bad state) with \( 1-p \) probability. We will assume that the production function is \( y_i = L_i \), where \( y_i \) is production of the firm \( i \) and \( L_i \) is the amount of labour used by the firm \( i \). Wage \( w \) is constant and is not affected by cyclical fluctuations. We will also suppose, as in Boeri and van Ours (2008), that EPL imposes infinite costs to employer and that they will never dismiss a worker with EPL.

First, we will analyse Cournot’s model with \( N \) firms in the economy with no EPL where a firm can make adjustments in its labour force without firing costs. This setup is useful since, by varying \( N \), we can generate different market structures including perfect competition, when \( N \to \infty \), as well as monopoly, when \( N=1 \). Suppose that we have a linear demand function where the intercept depends on the state of nature of economy. Demand function in good state is:

\[
p = A^H - y_1 - y_2 - \ldots - y_N,
\]

and demand function in bad state is:

\[
p = A^L - y_1 - y_2 - \ldots - y_N,
\]

where \( A^H > A^L \). Since production function is \( y_i = L_i \), the profit of firm 1 could be written as:

\[
\Pi_1 = (A^H - L_1 - L_2 - \ldots - L_N) L_1 - w L_1
\]

(3)

The first order condition with respect to \( L_1 \) gives:

\[
A^H - 2L_1 - L_2 - \ldots - L_N - w = 0
\]

(4)

Since firms are symmetric, in equilibrium \( L_1 = L_2 = \ldots = L_N = L \), and the above condition yields:

\[
L^H = \frac{A^H - w}{N + 1}.
\]

(5)

In the same fashion, we can obtain that demand for labour in recession is:

\[
L^L = \frac{A^L - w}{N + 1}.
\]

(6)

It is evident that employment will rise in a state of boom as opposed to a recession, with the absolute difference in the level of employment for an individual firm of:

\[
\Delta L = \frac{A^H - A^L}{N + 1}.
\]

(7)
For a firm, the variability in the level of employment during cyclical movements decreases with the increase in the number of firms in the market. We will see later on that the result for total employment is different.

The expected employment in a firm without EPL is:

$$E[L] = \frac{E[A] - w}{N + 1}. \quad (8)$$

Total expected employment in this market is:

$$N \cdot E[L] = \frac{N}{N + 1} [E[A] - w]. \quad (9)$$

It is evident that the total expected employment increases with the number of firms in the market since:

$$\frac{\partial (N \cdot E[L])}{\partial N} = \frac{1}{(N+1)^2} [E[A] - w] > 0. \quad (10)$$

### 2.2. ECONOMY WITH EPL

Now let’s suppose that a firm cannot make adjustments in its labour force due to infinitely high firing costs. In that case, it must employ the same number of workers in any state of economy. In other words, a firm maximises expected profit:

$$\max E[\Pi] = p \cdot [(A^u - L_1 - L_2 - ... - L_N)L_1 - wL_1] + (1-p) \cdot [(A^l - L_1 - L_2 - ... - L_N)L_1 - wL_1]. \quad (11)$$

First-order condition along with symmetry implies:

$$E[A] - 2L - (N-1)L - w = 0, \quad (12)$$

$$L = \frac{E[A] - w}{N + 1}, \quad (13)$$

$$NL = \frac{N}{N + 1} [E[A] - w]. \quad (14)$$

If we compare the level of employment of an individual firm with EPL and without EPL, we can see that a firm employs less workers in booms with EPL than without EPL, and more labour force in recessions with EPL than without EPL. The objective of this kind of behaviour is to avoid firing costs. In this extreme case, with infinite firing costs, there is no variability in employment between the two states of nature in economy. However, the level of total expected employment in the two regimes is the same.
2.3. COMPARATIVE STATICS FOR ECONOMY WITHOUT EPL

We will now calculate the variance of total expected employment in the economy without EPL in order to determine how it behaves with regard to a different number of firms:

\[
\text{var}(N \cdot E[L]) = p \left[ \frac{N}{N+1} \left( (A^H - w) - (E[A] - w) \right) \right]^2 + (1 - p) \left[ \frac{N}{N+1} \left( (A^L - w) - (E[A] - w) \right) \right]^2. \tag{15}
\]

\[
\text{var}(N \cdot E[L]) = \left( \frac{N}{N+1} \right)^2 \left[ p(A^H - (E[A]))^2 + (1 - p)(A^L - (E[A]))^2 \right], \tag{16}
\]

\[
\text{var}(N \cdot E[L]) = \left( \frac{N}{N+1} \right)^2 \text{Var}(A). \tag{17}
\]

The last result implies that the variability of demand due to cyclical fluctuations directly affects the variability of total employment. The comparative statics result that we are interested in shows how the variability of total expected employment behaves when the number of firms in the market changes:

\[
\frac{\partial \text{var}(N \cdot E[L])}{\partial N} = \frac{1}{(N+1)^2} \text{Var}(A) > 0. \tag{18}
\]

Therefore, the variability of total expected employment during cyclical fluctuations increases as the industry becomes more competitive. This result has important empirical and policy implications: EPL has larger impact in more competitive industries.

For example, in the case of monopoly, \(N=1\) and \(\text{var}(N \cdot E[L]) = \text{Var}(A) / 4\). In a duopoly, \(N=2\) and \(\text{var}(N \cdot E[L]) = [4 \text{var}(A)] / 9\), whereas when it comes to perfect competition, \(N \to \infty\) and \(\text{var}(N \cdot E[L]) = \text{var}(A)\). In other words, in perfect competition the variability of demand is equal to the variability of employment, and in other market structures there is a factor that mitigates oscillations of employment.

3. WELFARE

In this section, we will determine the impact of EPL on firms’ profit, consumer’s surplus and unemployment benefits to assess the overall effect of EPL on welfare.

3.1. THE COST OF EPL FOR FIRMS

It can be shown that expected profit of a firm without EPL is higher than with EPL, since in the second regime the firm uses suboptimal level of labour in any state of
nature in economy. In the Cournot model with \( N \) firms, the expected profit of each firm without EPL is:

\[
E[\Pi] = p(LH)^2 + (1 - p)(LL)^2 = E[L^2].
\]  

(19)

On the other hand, the profit of a firm in the economy with EPL is:

\[
\Pi = L^2.
\]  

(20)

Now, we can show that the former profit is higher than the latter:

\[
\frac{1}{(N+1)^2}(E[A] - w)^2 < \frac{1}{(N+1)^2}p(AH - w)^2 + \frac{1}{(N+1)^2}(1 - p)(AL - w)^2,
\]  

(21)

\[
\frac{E[A]^2}{(N+1)^2} < \frac{E[A]^2}{(N+1)^2}.
\]  

(22)

The last inequality holds since \( E[A^2] = E[A]^2 + \text{var}(A) \). Thus, the reduction of profit for a firm in the economy with EPL is:

\[
\Delta \Pi = E[\Pi] - \Pi = \frac{\text{var}(A)}{(N+1)^2}.
\]  

(23)

The larger the cyclical fluctuations, the larger the cost for firms originating from EPL. The total loss of profit for all firms in the market is:

\[
\Sigma \Delta \Pi = \frac{N}{(N+1)^2} \text{var}(A).
\]  

(24)

It is clear that the total loss of profit decreases with \( N \):

\[
\frac{\partial \Sigma \Delta \Pi}{\partial N} = -\frac{2N}{(N+1)^3} \text{var}(A) < 0.
\]  

(25)

3.2. CONSUMERS

In this part, we will analyse how EPL affects consumers and the deterioration of welfare stemming from lower firms' profit and lower consumer's surplus. From the previous discussion, we know that firms will have lower profit with EPL since they are unable to make optimal adjustments in their labour force and that the total loss of profit decreases with the number of firms in the market. In order to calculate total

---

3 In the Cournot model with \( N \) firms and linear demand with the slope -1, profit is \( \pi = y_i^2 = L_i^2 \), where the second equality follows from our simple production function.
welfare loss, we need the second element of total welfare – consumer’s surplus. Consumer’s surplus for the demand function that we use in our model is:

\[
CS = \frac{(A - p)^2}{2}.
\]  

We will first determine expected consumer’s surplus in the economy without EPL. In a boom total production is:

\[
y = L = \frac{N}{N + 1}(A^H - w),
\]

and the price is:

\[
p^H = A^H - \frac{N}{N + 1}(A^H - w) = \frac{A^H + Nw}{N + 1}.
\]

Consumer’s surplus is:

\[
CS^H = \frac{1}{2}\left(A^H - \frac{A^H + Nw}{N + 1}\right)^2 = \frac{1}{2}\left(\frac{N}{N + 1}\right)^2(A^H - w)^2.
\]

By using the same procedure, consumer’s surplus in a recession is:

\[
CS^L = \frac{1}{2}\left(\frac{N}{N + 1}\right)^2(A^L - w)^2.
\]

Expected consumer’s surplus could be calculated as follows:

\[
E[CS] = \frac{1}{2}\left[\left(\frac{N}{N + 1}\right)^2[p(A^H - w)^2 + (1 - p)(A^L - w)^2]\right],
\]

\[
E[CS] = \frac{1}{2}\left(\frac{N}{N + 1}\right)^2\left[E[A^2] + w^2 - 2wE[A]\right].
\]

In an economy with EPL, production is the same in both states of nature and prices in state H and L are the following:

\[
p^H = A^H - \frac{N}{N + 1}(E[A] - w) = \frac{(N + 1)A^H - NE[A] + Nw}{N + 1},
\]

\[
p^L = A^L - \frac{N}{N + 1}(E[A] - w) = \frac{(N + 1)A^L - NE[A] + Nw}{N + 1}.
\]

We will assume that unemployment benefit \( b \) is equal to wage in order to simplify the model. This allows us to neglect workers in the calculations of welfare loss. Nevertheless, even if we assume that unemployment benefit is lower than wage, this would not qualitatively alter our final result, since \( w - b \) is the gain per worker with EPL and \( w - b \) is the loss without EPL and the two terms cancel out.
Consumer’s surplus is the same in both states of nature and equal to \( E[CS] \):

\[
CS^H = \frac{1}{2} \left( A^H - \frac{(N+1)A^H - NE[A] + Nw}{N+1} \right)^2 = \frac{1}{2} \left( \frac{N}{N+1} \right)^2 (E[A] - w)^2, \tag{35}
\]

\[
CS^L = \frac{1}{2} \left( A^L - \frac{(N+1)A^L - NE[A] + Nw}{N+1} \right)^2 = \frac{1}{2} \left( \frac{N}{N+1} \right)^2 (E[A] - w)^2. \tag{36}
\]

We will now show that expected consumer’s surplus without EPL is larger than the one with EPL:

\[
\frac{1}{2} \left( \frac{N}{N+1} \right)^2 \left[ E[A^2] + w^2 - 2wE[A] \right] > \frac{1}{2} \left( \frac{N}{N+1} \right)^2 (E[A] - w)^2, \tag{37}
\]

\[
E[A^2] + w^2 - 2wE[A] > E[A]^2 - 2wE[A] + w^2, \tag{38}
\]

\[
E[A^2] > E[A]^2. \tag{39}
\]

The last inequality holds since \( E[A^2] = E[A]^2 + \text{var}(A) \), and the total loss of consumer’s surplus originating from EPL is:

\[
\Delta CS = \frac{1}{2} \left( \frac{N}{N+1} \right)^2 \text{var}(A). \tag{40}
\]

It can simply be shown that the loss of consumer’s surplus increases in \( N \). Thus, we have two offsetting forces that affect welfare since the loss of total profit decreases in \( N \). Total welfare loss from EPL is the sum of the loss of profits and the loss of CS:

\[
\Delta W = \frac{N(N+2)}{2(N+1)^2} \text{var}(A). \tag{41}
\]

Comparative statics reveals that:

\[
\frac{\partial \Delta W}{\partial N} = \frac{1}{(N+1)^3} \text{var}(A) > 0. \tag{42}
\]

The net effect is such that increasing loss of consumer’s surplus (CS) dominates decreasing loss of profit with higher \( N \), and the loss of welfare increases with the number of firms in the market.

### 3.3. UNEMPLOYMENT BENEFITS

EPL reduces welfare compared to economy without EPL. However, by reducing unemployment fluctuations, EPL reduces unemployment benefits for workers whose
jobs are affected by cycles. In the economy without EPL, unemployment increases in a recession compared to a boom by:

$$\frac{N}{N+1}(A^H - A^L).$$  \hspace{1cm} (43)

If unemployment benefit per worker is denoted $b$, expected payment to unemployed workers caused by recession is:

$$\frac{N}{N+1}(A^H - A^L)b(1-p).$$  \hspace{1cm} (44)

In order for EPL to be welfare-improving, the loss of welfare from this policy should be lower than the payment of expected unemployment benefits:

$$\frac{N}{N+1}(A^H - A^L)b(1-p) > \frac{N(N+2)}{2(N+1)^2} \text{var}(A),$$  \hspace{1cm} (45)

$$b > \frac{(N + 2) \text{var}(A)}{2(N + 1) (A^H - A^L)(1-p)} \equiv b^*.$$  \hspace{1cm} (46)

The previous condition comes down to the following condition: EPL improves welfare if unemployment benefit is larger than threshold value $b^*$. Finally, we can demonstrate that this threshold value decreases in $N$:

$$\frac{\partial b^*}{\partial N} = -\frac{1}{4(N+1)^2} < 0.$$  \hspace{1cm} (47)

The last result reveals that EPL is not only more effective in more competitive markets, but is also more likely to be welfare-improving.

4. EXTENSION OF THE COBB-DOUGLAS PRODUCTION FUNCTION

We will now make the model slightly more complicated by assuming that the production function is the Cobb-Douglas production function $y = L^\alpha K^{1-\alpha}$. In that case:

$$N \cdot E[L^\alpha] = \frac{N}{N+1}(E[A] - w)K^{\alpha-1},$$  \hspace{1cm} (48)

$$\text{var}(N \cdot E[L^\alpha]) = \left( \frac{N}{N+1} \right)^2 \text{Var}(A)K^{2(\alpha-1)}.$$  \hspace{1cm} (49)

Due to the fact that $\alpha < 1$, the right-hand side decreases in $K$, showing that, in more capital intensive industries, employment is less variable in cyclical fluctuations and there are less benefits that EPL brings.
In this part of the paper, we give an empirical analysis of the labour market reaction to EPL changes in sectors with different market concentration in Serbia. As we will soon see, we have found justification in the data of the previous theoretical considerations.

Due to data shortage, we have limited the analysis to only five sectors which differ significantly in market concentration. NACE hierarchical level two (division level) was chosen mainly due to data availability, and the following sectors were analysed: manufacture of tobacco products, manufacture of basic pharmaceutical products and pharmaceutical preparations, manufacture of beverages, manufacture of other transport equipment and manufacture of wood and of products of wood and cork, except furniture and manufacture of articles of straw and plaiting materials.

We have used the standard concentration measure, Herfindahl-Hirschman index (HHI), which is used as the measure of market concentration in an industrial organization. Economic theory, as well as empirical evidence, suggest that the concentration of firms in a market is an important element of market structure and a determinant of competition (Rhoades, 1993). Remember that HHI is the sum of squares of individual market shares of all the firms in the market, where market share is equal to the ratio of individual firm’s operating revenue to the total industry operating revenue in 2015:

\[ HHI = \sum_{i=1}^{N} s_i^2, \]  

where \( s_i \) is the share of firms in the market, and \( N \) is the number of firms.

Theoretically, if there was only one company in the market with 100% share, the value of the index would be 10,000, and if there was perfect competition, i.e. a large number of companies with very small shares, the value of the index would be close to 0. HHI gives proportionately greater weight to market shares of larger firms. According to the European Commission (2004), although it is advisable to include all firms in the calculation, lack of information about very small firms may not be important because such firms do not affect HHI significantly.

The US Department of Justice and the Federal Trade Commission in the US (2010) defined the following threshold values of HHI index that differentiate different levels of concentration:
According to another classification, provided by the European Commission (2004), we can use a different scale (Table 2).

**Table 2. HHI thresholds – European Commission**

<table>
<thead>
<tr>
<th>HHI value</th>
<th>Concentration level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHI&lt;1000</td>
<td>not concentrated markets</td>
</tr>
<tr>
<td>1000&lt;HHI&lt;2000</td>
<td>moderately concentrated markets</td>
</tr>
<tr>
<td>HHI&gt;2000</td>
<td>highly concentrated markets</td>
</tr>
</tbody>
</table>


The values of HHI based on operating revenues in selected industries in 2015 are shown in Table 3\(^5\). In order to compute HHI, we included all firms in selected industries which had available data on operating revenues for 2015 in the Serbian Business Registers Agency.

**Table 3. HHI in selected economic activities, 2015**

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>HHI (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture of tobacco products</td>
<td>7304</td>
</tr>
<tr>
<td>Manufacture of basic pharmaceutical products and pharmaceutical preparations</td>
<td>4122</td>
</tr>
<tr>
<td>Manufacture of beverages</td>
<td>2264</td>
</tr>
<tr>
<td>Manufacture of other transport equipment</td>
<td>760</td>
</tr>
<tr>
<td>Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Authors’ calculation according to data from financial statements, Serbian Business Registers Agency (SBRA), http://www.apr.gov.rs

It is obvious that there are large differences in market concentration in the selected industries. The most concentrated industry is *manufacture of tobacco products*, where

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\(^5\) Source for data on operating revenues of firms in selected industries was the Serbian Business Registers Agency.
the value of HHI is 7304, which indicates very high concentration. This is in line with the results obtained by Vuković, Mijić and Spahić (2015) who found that in the 2010-2013 period, market concentration of tobacco producers, based on operating revenue as the most referential variable, and measured by HHI and concentration index, indicated that the market of tobacco producers in the Republic of Serbia was highly concentrated and that it was an oligopoly.

In the following industry that was analysed, manufacture of basic pharmaceutical products and pharmaceutical preparations, the value of HHI was 4122, which also shows a very high level of market concentration.

High value of HHI, although closer to moderately concentrated markets in comparison to the former two industries is also found in manufacture of beverages. On the other hand, in manufacture of other transport equipment, and especially in manufacture of wood and of products of wood and cork, except furniture and manufacture of articles of straw and plaiting materials, HHI values indicate that the markets in these two industries are not concentrated.

In order to capture the effect of employment protection legislation changes, we focused mainly on the two-year periods before and after the Labour Law change in 2014. The first “transitional” Labour Law was adopted in 2001 and it significantly increased the labour market flexibility, primarily in the field of hiring and firing regulation and collective bargaining. The Labour Law which was adopted in 2005 introduced changes that were mainly aimed at expanding the rights of workers compared to the previous law, in order to be harmonised with the standards of the European Union and the International Labour Organization (ILO). Important changes were also introduced in 2014, this time aimed mostly at enhancing labour market flexibility.

EPL encompasses a large number of legal norms related to hiring and firing procedures (e.g. definition of justified or unfair dismissal, trial periods, severance payments, notice periods, valid cases for the use of fixed-term contracts, maximum number and maximum cumulated duration of successive fixed-term contracts, additional regulations for collective dismissals, etc.), which makes international comparisons of the strictness (or flexibility) of employment protection legislations rather complicated. To address this problem, OECD developed a numerical indicator of employment protection legislation – the EPL Index (Employment Protection Legislation Index). In addition to being the basis for international comparisons, this index (and its components, i.e. sub-indices related to different types of contracts) is the most commonly used measure of EPL in empirical analyses of the impact of EPL on labour market. The EPL index has values from 0 to 6, where higher values indicate stricter regimes. Three versions of synthetic EPL indicators are available, reflecting changes over time in the extent of information incorporated into them. Version 3 is the latest version of the index and it encompasses more items than the previous version 2. These new data
items were collected for the first time in 2008 and now they are the main indicators of employment protection used by the OECD.

The existence of this index allows us to estimate the direction and extent of the changes in the Serbian Labour Law in the last two decades. The values of the total EPL index in Serbia are shown in Table 4.

Table 4. EPL index in Serbia

<table>
<thead>
<tr>
<th>EPL index in Serbia</th>
<th>End of 1990s</th>
<th>2005 - 2014</th>
<th>2014 - until now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old methodology (V2)</td>
<td>2.9 (ILO)</td>
<td>2.4 (OECD)</td>
<td></td>
</tr>
<tr>
<td>New methodology (V3)</td>
<td>2.3 (authors’ calculation)</td>
<td>2.1 (OECD and authors’ calculation)</td>
<td></td>
</tr>
</tbody>
</table>

Source: OECD (2008), ILO (2009), authors’ calculation

In order to capture the differences in employment changes in sectors with different market concentration, we focused on periods before and after the Labour Law change in 2014. The first two important EPL changes (2001 and 2005) were not taken into account, since 2001 effectively presented the start of transitional process, and during the following decade Serbian labour market was subject to many specific shocks. Besides restructuring and privatisation, in 2008-2009 Serbian economy was hit by a crisis, which caused a large number of job losses. In the period between 2001 and 2008, economic growth has not been adequately transferred to employment growth and the values of employment elasticity were mostly negative. The positive effects of GDP growth in that period were passed on to the population through productivity growth and earnings rather than through employment growth, which is probably, to a large extent, the result of transitional restructuring and employment cuts in privatised companies. With the onset of economic crisis from 2008 to 2009, employment elasticity became positive and higher than 1 – in other words, the fall in GDP was accompanied by an even stronger decline in employment. The fall in GDP in Serbia was accompanied by a decline in employment during the crisis significantly higher than in many other countries of Central and Eastern Europe. Large fall in employment that occurred during the crisis was the result of the simultaneous impact of economic crisis and other economic factors, primarily related to the completion of transitional restructuring and privatisation. Bearing in mind these specific circumstances, we focused on the 2011-2015 period, especially on the 2013-2015 period. Due to data limitations, we only analysed and discussed employment elasticities in the selected five sectors in the observed period, bearing in mind the fact that, for drawing general conclusions, a more detailed econometric analysis is needed.

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For the calculation of employment elasticities, we used arc elasticity of employment, meaning that the computed elasticity between two different points in time is:

$$\varepsilon = \frac{(E_{t1} - E_{t0}) / E_{t0}}{(Y_{t1} - Y_{t0}) / Y_{t0}}. \quad (51)$$

The numerator simply shows the percentage change in employment ($E$), between periods 0 and 1, while the denominator shows the corresponding percentage change in output ($Y$). Although this method of computation is very simple, it is important to notice that year-over-year employment elasticities calculated in this manner tend to exhibit increased instability, as stated in Islam (2004). Nevertheless, since we only have short time periods from 2014, we still use this method and calculate employment elasticities for two-year periods.

For the computation of employment change, we focused only on registered employment. The aim of the analysis was to detect effects of employment protection legislation changes, whose direct influence is reflected mainly on the registered employment. We used revised data on registered employment from the Statistical Office of the Republic of Serbia (SORS). During 2015, SORS shifted to a new data source for monitoring registered employment. The conditions for this change were met by establishing the Central Register of Compulsory Social Insurance (CRCSI) whose data SORS has been taking since the end of 2014. In order to enable the comparison of the data from the 2000-2014 period with new data based on a new methodology, it was necessary to carry out the revision of the data on registered/formal employment. The revision has been done up to the level of classification of activities (two-digit level of CA 2010) for the Republic of Serbia for the total number of employees, whereby the total number of employees refers to: the employed in legal entities and unincorporated enterprises, in permanent employment and temporary and occasional employment, as well as persons who are performing independent activities or are founders of enterprises or unincorporated enterprises. Estimation of the number of registered individual agricultural workers for the 2000-2014 period was not given by SORS because there were no adequate elements for carrying out such estimates, which is why this group of employed persons was not included into analysis. For calculating sectoral output change, we used data on the real growth of sectoral gross value added (GVA). The main results are summarised in Table 5.
Table 5. Employment elasticities in the 2011-2015 period in selected industries

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>HHI</th>
<th>Employment elasticity 2011-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture of tobacco products</td>
<td>7304 (high)</td>
<td>0.78 (comparatively lower)</td>
</tr>
<tr>
<td>Manufacture of basic pharmaceutical products and pharmaceutical preparations</td>
<td>4122 (high)</td>
<td>-1.80 (negative)</td>
</tr>
<tr>
<td>Manufacture of beverages</td>
<td>2264 (moderately high)</td>
<td>3.42 (high)</td>
</tr>
<tr>
<td>Manufacture of other transport equipment</td>
<td>760 (low)</td>
<td>7.49 (high)</td>
</tr>
<tr>
<td>Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials</td>
<td>60 (low)</td>
<td>5.46 (high)</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations

With the exception of manufacture of basic pharmaceutical products and pharmaceutical preparations, all employment elasticity values are positive. This negative value of employment elasticity is probably the result of specific circumstances in this industry. The other four industries follow the pattern predicted in the model from previous sections: in the least concentrated sectors, employment elasticities were very high.

In order to identify the possible impact of the change of EPL on employment elasticities in the selected sectors, we can divide the 2011-2015 period into two sub-periods. The first period, 2011-2013, captures the changes in registered employment and GVA during 2012 and 2013, while the second period, 2013-2015, captures the changes that happened during 2014 and 2015. It is difficult to draw firm conclusions on a small sample of five sectors, without taking into consideration other factors besides EPL. However, it is noticeable that only in the highly concentrated manufacture of tobacco products almost no change in employment elasticity was observable. In three sectors (manufacture of beverages, manufacture of other transport equipment and manufacture of wood and of products of wood) that had considerably lower values of HHI in comparison to the manufacture of tobacco products, employment elasticity rose in the second period.

While in the first period (2011-2013), employment fell in all selected sectors, in the second period significant employment gains were visible only in two sectors with the lowest values of HHI (manufacture of wood and of products of wood and manufacture of basic pharmaceutical products and pharmaceutical preparations).

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7 Since changes in the Labour Law came into force in mid-2014, it is assumed that changes in employment levels during 2014 can be attributed to EPL change to some extent.

8 In absolute values.
of other transport equipment). These employment gains were much higher than the GVA growth would suggest. These results are also in line with the model predictions that EPL has larger impact on total employment variability in more competitive industries.

In order to reach general empirical conclusions, further research with more sophisticated methods needs to be conducted. Nevertheless, these preliminary results suggest that the model described in the previous sections provides solid basis for explaining the relationship between EPL and competition level, which has important theoretical and policy implications.

6. CONCLUSION

The relationship between market structure and EPL was neglected in previous literature. Our research aims at fulfilling the existing gap. We have constructed a simple model with linear demand, linear production function and Cournot competition between firms. Nevertheless, the model brings many interesting insights. First, we have shown that EPL has larger impact in more competitive industries where employment fluctuations are larger during cycles, but since firms cannot make adjustments in labour force optimally, it induces the deterioration of welfare. On the other hand, this policy saves on unemployment benefits, and if unemployment benefits are high, EPL is welfare-improving. Moreover, EPL is more likely to be welfare-improving in more competitive industries.

We have found the support to our previous conclusions in the data from five selected Serbian industries. The selection of industries was limited by the available data. Nevertheless, the data reveal that more competitive industries have higher employment elasticity.

Our paper has important policy implications. It has shed light on the differentiated impact of EPL in industries with different levels of competition, and it has partly resolved the debate over the consequences of this labour market policy for welfare. In transitional countries, where market concentration is high in certain industries and unemployment benefits low, this policy is less likely to be welfare-improving.

There are several limitations to our analysis that open avenues for further research. First, the model is based on the linear demand function, and it would be an interesting exercise to examine its behaviour with other demand function specifications. Secondly, we have used the extreme assumption that firing costs are infinite, so the model could be enriched by relaxing this assumption. Thirdly, the model could have more than two states of nature, with continuously distributed demand shocks. However, this would significantly alter its tractability.
Finally, an entire empirical paper could be written, examining the relationship between market structure and EPL by using a sample that contains a sufficient number of industries necessary to draw such inferences. Needless to say, this kind of research is limited by data availability.

REFERENCES


IMPORTANCE OF INNOVATIONS FOR ENHANCEMENT OF COMPETITIVE POSITION OF SERBIA AND THE WESTERN BALKAN REGION

Milorad Filipović*, Miroljub Nikolić**

Abstract The entire region of the Western Balkans could be categorised as a less developed part of Europe. Underdevelopment of the region is a major limitation for better implementation of the “catching-up” process and decreasing developmental differences between the Balkans and the EU. Although some of the countries in the region are fully fledged EU members (Croatia, Romania, Bulgaria and Greece), the lag behind the EU average has not been substantially reduced over the last years. Some of the main characteristics of the WB countries are: prevalence of underdeveloped industry with obsolete structure with low value-added production; too extensive and ineffective agricultural production; high dependence on foreign capital inflow; extremely high brain drain process; low investments, especially in science, R&D, education and innovations.

The paper will focus primarily on the Republic of Serbia and the results and deficiencies of the development process, but a comparative database for other countries will be analysed, as well. Our goal is to confirm the assumption that some of the new EU states, such as the Baltic countries and Visegrad Group, achieve their good macro competitiveness position predominantly through improved and increased investments in education, innovation and R&D activities. Serbia, too, should follow this model in the future in order to accelerate its “catching-up” with EU countries. All the countries of the Western Balkans need to improve their innovativeness and competitiveness, as they are now lagging and are ranked very low in terms of GCI. Serbia is especially poorly ranked in the twelfth GCI pillar - Innovation, Capacity for innovation, Quality of scientific research institutions, Company spending on R&D, University-industry collaboration in R&D, Government procurement of advanced technological products, Availability of scientists and engineers, PCT patent applications/million population. In this paper, we will try to elaborate on a new approach towards Serbian innovativeness through policy measures for its improvements.

Keywords: economic development, competitiveness, innovativeness, Western Balkan countries

JEL: O11, O30, O40, O57
Field: Economics, Statistics

1. INTRODUCTION

The period of dynamic growth from 2000 to 2008, when the economies of the Western Balkans increased by rates exceeding 5% (in some countries even above 10%), allowed for the reduction of their economic regression in comparison to the average and leading EU countries. However, the global economic crisis made a deep mark on the dynamics and sustainability of growth in most of the Western Balkan countries.

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During the 2009-2010 crisis, most countries of the Western Balkans recorded a significant decrease in economic activity, and after a relatively moderate recovery in 2011, they recorded negative growth again in 2012. After the repeated recession in 2012, positive growth rates were recorded in the largest part of the Western Balkans in the following three years, but growth was considerably lower in comparison to the pre-crisis period, which is why these states did not manage to shift back into a dynamic and sustainable growth, but rather entered economic stagnation.

Western Balkan countries differ by the achieved levels of economic development, dynamics of economic growth, innovativeness, competitiveness and level of integration into the European Union. Out of the eleven (11) observed Western Balkan countries, six are EU members (Greece, Slovenia, Romania, Croatia, Hungary and Bulgaria), while others (Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia) are indifferent stages of the EU accession process. The Member States of the European Union are more developed, innovative and competitive (especially Slovenia and Greece) than other Western Balkan countries, while according to most of the indicators of development, innovation and competitiveness, Serbia (together with Albania, Bosnia and Herzegovina and Macedonia) holds the lowest rank among the Western Balkan countries.

Although it did not cause them, the crisis intensified the previously existing developmental imbalances in most Western Balkan countries, thus making dynamics and sustainability of economic progress in Serbia and other least developed countries significantly slower in comparison to the pre-crisis period. The economic crisis left the gravest consequences on the least developed Western Balkan countries, which were facing great developmental problems, structural imbalances, competitive deficiencies and innovation lag.

Innovation lag in Serbia and most of the Western Balkan countries is a noteworthy factor of low competitiveness of their economies, and one of the most significant developmental limitations, since the absence of innovations prevented significant improvement of productivity and competitiveness as foundations of dynamic and sustainable growth. In a state of poor innovativeness, the majority of the Western Balkan countries are doomed to economic stagnation and lag in their transition to a society based on knowledge, innovativeness and competitiveness.

2. ECONOMIC DEVELOPMENT OF SERBIA AND THE WESTERN BALKAN COUNTRIES

Most theories of economic growth predict that long-term growth potential of a certain economy is determined by productivity of using production factors, i.e. the growth rate of an economy is directly related to productivity which, in turn, determines the rate of returns on investment in production. Hal and Jones (1999) proved
empirically that changes in the level of productivity resulted in about 89% of GDP per capita. Therefore, GDP per capita could be used as a substitution for the level of productivity of a particular country. In accordance with the previous results, GDP per capita can be used as the strictest measure of national productivity, i.e. economic development, whereby the change of GDP per capita is closely related to the change of standards of living of the population over time.

In 2015, with GDP per capita amounting to US$ 5,663 (constant 2010), Serbia was in the group of the least developed European countries together with Albania, Bosnia and Herzegovina, Macedonia and Montenegro. These Western Balkan countries are candidates for accession to the European Union, and according to the World Bank, their economies are in the second stage of development, where the factors which increase efficiency are the most significant in building competitiveness. These economies lag in economic development in comparison to the remaining six Western Balkan countries, which are either fully fledged EU members and whose economies are in transition from the second to the third stage of development (Romania, Croatia and Hungary) or have already achieved the third stage (Greece and Slovenia) where competitiveness is increasingly based on factors which increase innovativeness and less on basic factors of competitiveness. The exception is Bulgaria which, although more developed than the five Western Balkan EU candidate countries, is still in the second stage of development.

Table 1: Western Balkan countries according to the level of their economic growth in 2015, GDP per capita(constant 2010US$)

<table>
<thead>
<tr>
<th>Stages of Development</th>
<th>Stage 1</th>
<th>Transition from stage 1 to stage 2</th>
<th>Stage 2</th>
<th>Transition from stage 2 to stage 3</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor-driven economies</td>
<td>Efficiency-driven economies</td>
<td>Innovation-driven economies</td>
<td></td>
<td></td>
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<tr>
<td>GDPpc</td>
<td>to 2,000</td>
<td>2,000-3,000</td>
<td>3,000-9,000</td>
<td>9,000-17,000</td>
<td>over 17,000</td>
</tr>
<tr>
<td>Albania (US$ 4,543)*</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>B&amp;H (US$ 4,802)</td>
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<td></td>
<td></td>
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<tr>
<td>Macedonia (US$ 5,094)</td>
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<td></td>
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</tr>
<tr>
<td>Serbia (US$ 5,663)</td>
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<td></td>
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<tr>
<td>Montenegro (US$ 7,263)</td>
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<td></td>
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<tr>
<td>Bulgaria (US$ 7,612)</td>
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<td></td>
<td></td>
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<tr>
<td>Romania (US$ 9,539)</td>
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<tr>
<td>Croatia (US$ 13,876)</td>
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<tr>
<td>Hungary (US$ 14,519)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Greece (US$ 22,579)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia (US$ 23,781)</td>
<td></td>
<td></td>
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</tbody>
</table>

* GDP per capita(constant 2010 US$).
Source: Authors, based on the World Bank. World Development Indicators 2017 database.
In the previous fifteen years, Serbia increased its GDP per capita by US$ 1,184 (from US$ 3,406 in 2000 to US$ 4,889 in 2015), thus recording higher average annual economic growth than most of the observed Western Balkan countries. Only Romania and Bulgaria (4.7%), and Albania (5.3%) recorded higher growth than Serbia (4.0%).

Figure 1: Economic growth of the Western Balkan countries in the 2000-2015 period (AAGR GDP)

However, due to the low starting point in 2000, when only Bosnia and Herzegovina (US$ 2,982) and Albania (US$ 2,256) recorded lower GDP per capita in comparison to Serbia, in 2015 Serbia ranked among the least developed Western Balkan countries, thus lagging four times behind the most developed countries in the region (Greece and Slovenia). Serbia’s developmental performance was more favourable only in comparison to Macedonia, Bosnia and Herzegovina and Albania, which were at the very bottom of the European ladder.
Table 2: Development of the Western Balkan countries in the 2007-2015 period- GDP per capita (constant 2010 US$)

<table>
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<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>2,256</td>
<td>3,078</td>
<td>4,094</td>
<td>4,211</td>
<td>4,277</td>
<td>4,330</td>
<td>4,412</td>
<td>4,543</td>
<td>3,519</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>4,011</td>
<td>5,678</td>
<td>6,843</td>
<td>7,019</td>
<td>7,062</td>
<td>7,163</td>
<td>7,300</td>
<td>7,612</td>
<td>6,144</td>
</tr>
<tr>
<td>B&amp;H</td>
<td>2,982</td>
<td>3,892</td>
<td>4,475</td>
<td>4,519</td>
<td>4,482</td>
<td>4,595</td>
<td>4,652</td>
<td>4,802</td>
<td>4,073</td>
</tr>
<tr>
<td>Greece</td>
<td>23,277</td>
<td>27,700</td>
<td>26,919</td>
<td>24,497</td>
<td>22,832</td>
<td>22,253</td>
<td>22,480</td>
<td>22,579</td>
<td>25,826</td>
</tr>
<tr>
<td>Croatia</td>
<td>10,573</td>
<td>13,125</td>
<td>13,509</td>
<td>13,903</td>
<td>13,640</td>
<td>13,533</td>
<td>13,539</td>
<td>13,876</td>
<td>13,095</td>
</tr>
<tr>
<td>Hungary</td>
<td>10,440</td>
<td>13,043</td>
<td>13,026</td>
<td>13,290</td>
<td>13,145</td>
<td>13,460</td>
<td>14,043</td>
<td>14,519</td>
<td>12,840</td>
</tr>
<tr>
<td>Macedonia</td>
<td>3,488</td>
<td>3,787</td>
<td>4,561</td>
<td>4,660</td>
<td>4,631</td>
<td>4,759</td>
<td>4,920</td>
<td>5,094</td>
<td>4,176</td>
</tr>
<tr>
<td>Montenegro</td>
<td>4,797</td>
<td>5,426</td>
<td>6,682</td>
<td>6,890</td>
<td>6,697</td>
<td>6,928</td>
<td>7,045</td>
<td>7,263</td>
<td>6,096</td>
</tr>
<tr>
<td>Romania</td>
<td>4,901</td>
<td>6,825</td>
<td>8,297</td>
<td>8,426</td>
<td>8,518</td>
<td>8,852</td>
<td>9,159</td>
<td>9,539</td>
<td>7,533</td>
</tr>
<tr>
<td>Serbia</td>
<td>3,406</td>
<td>4,650</td>
<td>5,412</td>
<td>5,531</td>
<td>5,502</td>
<td>5,671</td>
<td>5,593</td>
<td>5,663</td>
<td>4,889</td>
</tr>
<tr>
<td>Slovenia</td>
<td>18,572</td>
<td>22,031</td>
<td>23,439</td>
<td>23,542</td>
<td>22,861</td>
<td>22,582</td>
<td>23,260</td>
<td>23,781</td>
<td>22,319</td>
</tr>
<tr>
<td>WBC1*</td>
<td>3,386</td>
<td>4,167</td>
<td>5,045</td>
<td>5,162</td>
<td>5,118</td>
<td>5,257</td>
<td>5,324</td>
<td>5,473</td>
<td>4,551</td>
</tr>
<tr>
<td>WBC2**</td>
<td>11,962</td>
<td>14,734</td>
<td>15,339</td>
<td>15,113</td>
<td>14,676</td>
<td>14,640</td>
<td>14,963</td>
<td>15,318</td>
<td>14,626</td>
</tr>
</tbody>
</table>

*WBC1 – the average of the least developed Western Balkan countries: Albania, Bosnia and Herzegovina, Macedonia, Serbia and Montenegro.

**WBC2 – the average of more developed Western Balkan countries.

Source: Authors, based on the World Bank. World Development Indicators 2017 database.

Like the other observed Western Balkan countries, Serbia experienced a dynamic development (2000-2008) before the global economic crisis. However, the crisis first led to economic decline and then to stagnation in most of the Western Balkan countries. Since the onset of the global economic crisis (2009-2015), Serbia recorded negative economic growth three times (2009, 2012 and 2014), thus moving along the so-called W developmental pathway. Although unlike Greece, Slovenia and Croatia, which did not manage to achieve the level of economic development (GDP per capita) from the previous year of 2008, Serbia recorded positive, albeit modest real average annual growth of 0.4% (by US$154) in comparison to the pre-crisis period, the extent and annual dynamics of total economic activity pointed to stagnation, not to a dynamic and sustainable growth.
Relatively dynamic growth in the pre-crisis period and the stagnation after the outbreak of the global economic crisis point to the lack of sustainable sources of growth, low total competitiveness of the local economy and erroneous developmental paradigm based on constant foreign loans, non-selective stimulation of direct foreign investments, firstly in unchangeable service sectors and then in industrial labour-intensive and low-cumulative activities with low added value, small or null comparative advantages and long term sustainability (Filipović & Nikolić, 2016). Low competitiveness of the Serbian economy measured by the composite Global Competitiveness Index also points to the inappropriate model of development.

3. COMPETITIVENESS OF SERBIA AND THE WESTERN BALKAN COUNTRIES

The level of productivity of an economy can be assessed by using the Global Competitiveness Index (GCI), a composite indicator of competitiveness developed by the World Economic Forum aimed at identification of the most significant factors of productivity, and determination of its long-term growth potential. In defining the GCI, the basic assumption is that competitiveness determines the productivity of utilisation of production resources which are at the disposal of a country that uses them in designing products and services. Accordingly, WEF defines competitiveness as a set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in economy, which in turn are fundamental drivers of its
growth rates. In other words, a more competitive economy is one that is likely to grow faster over time. (World Economic Forum 2017, p.35).

The connection between competitiveness and productiveness of an economy (the Global Competitiveness Index and GDP per capita) is empirically tested by WEF using the bivariate model of regression analysis. The results of the regression analysis indicate presence of strong and positive connection between GDP per capita and GCI, i.e. that about two thirds of variations in GDP per capita can be explained by changes of GCI (World Economic Forum 2014, p. 46).

**Figure 3: Relationship between the GCI and level of income for 133 economies**

![Graph showing the relationship between GCI and GDP per capita](image)

Source: Authors, based on the World Bank, World Development Indicators, World Economic Forum, The Global Competitiveness Index Historical Dataset 2007-2016, N = 133 economies.

In addition to this, by following the methodological framework of WEF, the correlation between GCI (logarithm values of GCI) and productivity level of a country was tested and graphically presented further in the paper, measured through economic growth rate (net growth rate). The results of the analysis confirmed the strong positive relation between GCI and growth rate of the observed economies. Thus, the results of the WEF research (World Economic Forum 2014, p. 47) were confirmed, proving that GCI was a good indicator of the level of productivity and competitiveness of economy, i.e. that competitiveness (measured by GCI) significantly influenced medium and long-term growth rates of a country and the level of its development.
Starting from the previous empirical proofs of the connection between the Global Competitiveness Index and the level of economic development, i.e. economic growth, the paper further investigates the competitiveness of Serbia in comparison to the selected Western Balkan countries based on the results published by the World Economic Forum, together with the role of innovativeness as one of the most significant factors of long-term competitiveness.

Global Competitiveness Index is a composite indicator of competitiveness which includes a great number of individual indicators, whereby each one of them measures different aspects of competitiveness. Individual indicators of competitiveness are grouped in 12 categories, i.e. pillars of competitiveness. Although all pillars influence the total competitiveness of a country, their influence is different with respect to the level of development, i.e. individual factors of competitiveness influence different economies differently.

Total value of the Global Competitiveness Index (GCI) shows that Serbia belongs to the group of the least competitive European countries. In the report of the World Economic Forum for 2017, Serbia is ranked 90th on the list of 138 observed countries according to their GCI value (3.969), which is not only an inferior position in comparison to the developed countries of Europe and the world, but also in relation to all Western Balkan countries (except Bosnia and Herzegovina, which holds the 107th position).
During the period when the Global Competitiveness Index was used for measuring competitiveness, Serbia recorded the greatest competitiveness in 2008. In the following two years, the position of Serbia on the global competitiveness map deteriorated, only to become stabilised with slight fluctuations at relatively low level in the following years. Although competitiveness of Serbia slightly improved in 2016, other countries in the region improved their global competitiveness position more significantly in the previous years, thus enhancing their competitive advantage in comparison to Serbia.

Table 3: Competitiveness of the Western Balkan countries according to the Global Competitiveness Index

|------|------|------|------|------|------|------|------|------|------|------|
Among the 11 observed Western Balkan countries, Slovenia dominates in half of the pillars (6 out of 12), although with lower cumulative assessment of competitiveness in comparison to Bulgaria. Bosnia and Herzegovina scores the most poorly in most of the pillars of competitiveness (7 out of 12). In comparison to the observed countries, Serbia lags the most in the pillar which assesses business sophistication. Unfavourable position of Serbia is also detected in other pillars of competitiveness since, according to the degree of competitiveness; it is most often very close to the worst ranked country.

Figure 6: Competitive performance of the Western Balkans countries in 2016

With respect to individual pillars of competitiveness in 2016, Serbia scored the worst in the pillars which measured Goods Market Efficiency and Business Development, while exhibiting the greatest competitive potentials in the pillars which measured the quality of Health and Primary Education, Higher Education and Training. Although
the relatively favourable position of Serbia in the domain of primary and higher education leaves room for optimism, the “brain drain” significantly threatens the competitive position of Serbia and decreases the possibilities for future growth.

Table 4: Competitive performance of Serbia in the 2007-2016 period

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Global Competitiveness Index - GCI</strong></td>
<td>91</td>
<td>85</td>
<td>93</td>
<td>96</td>
<td>95</td>
<td>95</td>
<td>101</td>
<td>94</td>
<td>94</td>
<td>90</td>
</tr>
<tr>
<td><strong>BASIC REQUIREMENTS</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Institutions</td>
<td>99</td>
<td>108</td>
<td>110</td>
<td>120</td>
<td>121</td>
<td>130</td>
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Within the Global Competitiveness Index, observed per groups of factors, i.e. domains of competitiveness, Serbia’s ranking is the worst in the domain of innovativeness, where it significantly lags, together with Bosnia and Herzegovina, in comparison to other Western Balkan countries.
4. THE SIGNIFICANCE OF DEVELOPMENT OF INNOVATIVENESS FOR IMPROVEMENT OF COMPETITIVE POSITION OF SERBIA AND THE WESTERN BALKAN COUNTRIES

Like most of the observed Western Balkan countries, Serbia is in the second stage of development (with the so-called economy guided by efficiency). It has become more competitive due to increase of productivity in comparison to the least developed countries, which build their competitiveness and development primarily on the use of non-qualified labour and exploitation of natural resources. Those countries need to develop a more efficient production process and increase product quality, since due to increase in earnings and standard of living of the population, the cost of production rises and exerts pressure on growth of freely formed prices in the market, which may have a negative reverse effect on competitiveness. For this reason, although long-term sustainable growth demands improvement in all domains, the most significant factors of improvement of competitiveness in these countries are those which are recognised in the Global Competitive Index as the bearers of efficiency growth (with a share of 50% in the GCI value), classified as five pillars: Higher education and training (5th pillar), Goods market efficiency (6th pillar), Labour market efficiency (7th pillar), Financial market development (8th pillar), Technological readiness (9th pillar) and Market size (domestic and/or foreign) (10th pillar).

However, although innovativeness as a factor of competitiveness within GCI does not have the same significance in the countries which are in the second stage of development (where pillar 10, which measures innovativeness, participates with 10% in the structure of their GCI) as in the countries whose competitiveness and development are based on innovations to a greater extent (where the pillar 10 participates with 30% in the structure of GCI), development based on innovativeness can significantly enhance competitiveness and accelerate economic growth of the countries in the second stage of economic development. Successful application of innovations, i.e. the process of designing new products and services and searching for new ways of production is not only increasingly important, but is also the base for improvement of overall competitiveness in the global market, and a source of drivers and bearers of economic growth, in the period of a new wave of technological convergence and digitalisation, i.e. the emergence of the so-called Fourth Industrial Revolution.

The Fourth Industrial Revolution is not a clearly defined set of certain new individual technologies, but rather a shift to a new system which is built on infrastructure of complete digitalisation, i.e. global transformation which is characterised by convergence of digital, physical and biological technologies in a way that changes the surrounding world and the pure idea of being human. The changes are historical in terms of size, speed and scope (Schwab, 2016). Since new technologies have become omnipresent, they fundamentally changed models of production, connection, creation of energy, communications etc. Fundamental and global nature of the Fourth In-
Industrial Revolution brings new threats which are related to disturbances in the labour market and the mere future of human labour, inequality of income and geopolitical instability, as well as the change of system of social values and ethical frameworks (Schwab, 2016). Also, since the Fourth Industrial Revolution leads to rapid changes, the support to development of new economic activities becomes increasingly important through reforms of the economic system aimed at stimulation of innovations (Schwab, 2016). Therefore, it is important that creating favourable environment for innovations be a part of the developmental paradigm for the less developed countries (such as Serbia and the Western Balkans), as well, and not only for the leading, already developed countries.

To design and apply innovations, it is necessary to provide an environment which stimulates innovative activities accompanied by the support of the public and private sector. More precisely, it means sufficient investment in research and development (R&D), especially in the private sector, the presence of high-quality scientific and research institutions where new knowledge necessary for designing new technologies can be developed, close cooperation in research and technological development between university and economy, and protection of intellectual property (World Economic Forum, 2016, p. 37).

In the framework of the Global Competitiveness Index, innovativeness of a country is measured by the 12th pillar, which includes six indicators of innovativeness. The assessment of innovativeness starts from the viewpoint that business connection and cooperation, as well as adjustment of adopted technologies, is not sufficient per se, and that long-term enhancing of competitiveness needs innovations which are the result of application of the latest scientific knowledge. This means that in contemporary conditions of the Fourth Technological Revolution, enterprises need to design and manufacture superior products and processes in order to maintain competitiveness and develop more business activities which generate high added value.

In 2016, innovativeness in Serbia (according to the values of the 12th pillar of the Global Competitiveness Index) was very low (the value of 3.0 on a scale from 1 to 7), and was at the same level as Albania, and better only in comparison to Bosnia and Herzegovina, which was at the bottom of the scale (2.7). Among the observed Western Balkan countries, Slovenia was the most innovative (3.9), followed by Macedonia and Bulgaria (3.4) and Greece (3.3). The unfavourable situation in Serbia was also influenced by the drop in assessment of innovativeness in comparison to 2007 (from 3.1 to 3.0). The assessment of innovativeness was also lower in Croatia and Hungary (whose starting position was better than that of Serbia), while all the other countries improved their innovative position in the previous nine years, thus increasing their competitiveness in comparison to other countries in the region and the world.
A more detailed image of the innovative position of Serbia is obtained by reviewing the dynamics of individual indicators of innovativeness, either considering the previous period or in comparison to other Western Balkan countries.

According to the methodology of the Global Competitiveness Index, the first indicator which assesses innovativeness is the innovative capacity of the economy. It is a very complex indicator which, in addition to evaluation of the accumulated knowledge obtained by formal research and successfully licensed activities, also records the ability of a country to stimulate creativity, interaction and cooperation between individuals and institutions, as well as abilities of its enterprises to commercialise new products. This model of considering innovations points out that revolutionary ideas originate from contrasting and applying the concept throughout diverse activities, culture, sections and disciplines (Johansson, 2004). Innovation capacity is not only a question of the level of investments in R&D activities; microeconomic competitiveness also needs to be sufficiently high in many elements of quality of business environment and development of R&D within an enterprise, in terms of creating larger number of patents and other innovative results (Johansson, 2004). Despite an improvement in comparison to 2007 (by 0.4 structural points), Serbia recorded the penultimate smallest innovative capacity in comparison to all the Western Balkan countries in 2016 (3.2 on a scale of 1-7), with the exception of Bosnia and Herzegovina (3.1), and thus significantly lagged behind the leading countries in the region, such as Slovenia (4.8), Bulgaria (4.3), and Albania (4.2).

The quality of science and research institutions in Serbia in 2016 (4.0 on a scale of 1-7), although unchanged in comparison to 2007, was relatively favourable in com-
comparison to other countries in the Western Balkans. According to this indicator of innovativeness, Serbia lags only behind Slovenia (4.9), Hungary (4.5) and Macedonia (4.1), and is positioned better than all the other countries, especially in comparison to Albania (2.5), Bosnia and Herzegovina (3.2) and Montenegro (3.6).

The activities of research and development play a significant role in the process of creation of innovations, although not all innovations are the result of R&D activities, nor are they technological by nature. Innovations may be a result of high qualifications and professionalism of labourers in an enterprise and their interaction with other enterprises and research institutions. However, besides the previously stated, the level of investment in R&D remains one of the key input elements of the innovation process, and is an indicator of inclination of a country towards developing an economy based on knowledge, innovativeness and competitiveness.

In 2016, investment of the economy in R&D was the lowest in Serbia in comparison to other Western Balkan countries, and reduced in comparison to 2007 (from 3.1 to 2.7 on a scale of 1-7). The lag of Serbia in this indicator and the negative trends in the previous decade point to great structural problems of the Serbian economy which are the result of erroneous models of development and unsuccessful model of structural transformation of economy that relied almost entirely on transformation of property through sales of the previously socially and state-owned enterprises, without paying attention to research and developmental potentials of certain, formerly extensive industrial systems and the need for their preservation and improvement. The result of this process is that domestic private enterprises hardly conduct any own R&D activities, thus completely relying on the purchase of foreign technology through patents and licences.

A slightly more favourable situation is observed in total investments in R&D activities, because in the Republic of Serbia, low level of investments from the private R&D sector is to a certain extent compensated by higher public R&D when compared to the Western Balkans, which was demonstrated in the research of OECD in 2016. According to this research which included six countries in Southeast Europe – Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia, the amount of R&D investment was small; all the observed countries (except Serbia) invested less than 0.5% of GDP in R&D, which was significantly lower in comparison to EU countries where, on average, 2% of GDP was invested in R&D. This research also confirmed that only a small part of R&D investment came from the private sector – 12% on average in comparison to 54% in EU (OECD, 2016).

Considered as a whole, higher R&D investments from the public sector in comparison to the private one need not always be unfavourable, i.e. as long as the rate of returns on public sector investment is higher in comparison to the private one, public involvement, i.e. increased public investment in R&D, is justified. Besides, the effect of public R&D investment on productivity depends on the intensity of R&D activ-
Education, innovation and growth

Therefore, governments should support both public and private activities directed at increasing R&D investments. Policymakers need to establish corresponding frameworks which will provide for knowledge transfer between public and private sectors (Guellec & Van Pottelsberghe de la Potterie, 2001).

Figure 8: Innovative performance of Serbia in the 2007-2016 period

Cooperation between universities (scientific and academic organisations) and economy in terms of development of R&D in the Western Balkans is limited. The position of Serbia (3.2) is somewhat more favourable in comparison to most Western Balkan countries (Greece, Bosnia and Herzegovina, Croatia, Hungary and Albania), but is still insufficient in comparison to Slovenia (3.8), Macedonia and Bulgaria (3.4) and Romania (3.3), and it did not significantly change during the previous ten-year period. An encouraging fact is the existence of several financial instruments for support to cooperation between research, business and academic institutions in the region. In the Western Balkans, there is a great number of new incentives which offer institutional support for knowledge and innovation transfer, but they are mostly unsustainable. Also, no Western Balkan country has adopted a policy aimed at stimulating mobility between the private sector and public institutions. Besides, a very small number of patents is designed in the region, and governments have yet to adopt laws which would motivate researchers to protect and commercialise intellectual property as a result of public research. Insufficient and inappropriate communication between science, economy and ministries is an additional problem, combined with ad hoc political incentives with limited financial support.

Most Western Balkan countries pay insufficient attention to stimulation of development of progressive technologies through state-placed orders. Although Serbia does not lag substantially behind most Western Balkan countries (ranked above Romania,
Croatia, Slovenia, Bosnia and Herzegovina, Greece and Hungary, but below Montenegro, Bulgaria, Albania and Macedonia), in 2016 its assessment of this indicator and its position in comparison to other countries deteriorated when compared to 2007. Availability of scientists and engineers is the last indicator of innovativeness which points to the development and preservation of human, research and scientific resources of a country. Although it is not ranked the lowest in the region (Albania, Bosnia and Herzegovina and Croatia are ranked lower on the scale), Serbia lags significantly behind the leading countries in the region (Greece, Romania, Slovenia and Bulgaria), and its position in comparison to 2007 has significantly worsened (a drop in 0.9 structural points, from 4.6 in 2007 to 3.7 in 2016). One of the most significant reasons of the decreased availability of scientists and researchers in Serbia and the remaining Western Balkan countries is a great brain drain to more developed and economically more attractive EU countries and the USA, which offer better conditions for development, professional affirmation and living.

5. CONCLUSION

In the conditions of the Fourth Industrial Revolution, economic development demands expansion stemming from a permanent increase of competitiveness based on the improvement of innovativeness. Although competitiveness demands efficient public and private institutions, courts, developed basic infrastructure, high-quality healthcare and education, macroeconomic stability and proper functioning of the labour market, financial market and the goods and service market, willingness and capability for innovation either related to enterprises or state and private institutions is still the most important factor of enhancement of overall competitiveness and dynamic sustainable economic growth and improvement in the standard of living.

Innovativeness is no longer an exclusive right and/or need of the most developed countries, but is a necessity for all countries regardless of their level of development and the amount of income they generate. Development and successful application of innovations are significant for the growth of productivity and enhancement of competitiveness. In a developed economy, innovativeness becomes the source of new ideas which push the boundaries of knowledge and technology, while in the less developed countries, innovative activities improve the absorption capacity necessary for application of the already created knowledge, innovations and technology, which enable the catch-up effect (Griffith, Redding & Van Reenen, 2004).

This means that in contemporary economy, the sources of productivity lie in the capability of enterprises to apply new technologies in their manufacturing processes and to change the model of their operations. Today, these factors play a more significant role in comparison to investments in basic physical and human capital and well-functioning of the market of production factors and goods, the factors which
were previously considered sufficient to achieve growth. Also, fluctuation of prices leads to acceleration of manufacturing cycles and more rapid technological changes that stimulate enterprises and regulators to include more innovative activities.

Vulnerability to fluctuations of prices of goods, services and raw materials in the developing countries and perspectives of the Fourth Industrial Revolution emphasise the importance of innovations as the source of competitiveness and economic diversification in order to initiate and maintain growth. Bearing this in mind, it is clear that (1) monetary stimuli are not sufficient to initiate growth if the economy is not competitive; (2) creation of a favourable environment for innovations is an increasingly important element of competitiveness; and (3) innovations in turn go hand in hand with openness and economic integration (World Economic Forum, 2016, p. 5).

Therefore, the increase of innovation efforts is of vital significance both for Serbia and the Western Balkans in enhancing competitiveness and achieving dynamic and sustainable growth. Although governments in most Western Balkan countries still insufficiently recognise and understand the significance and role of science, R&D activities and innovativeness in their long-term sustainable growth, as well as the improvement of competitiveness and rising standard of living, certain (leading) Western Balkan countries have made efforts aimed at more efficient use of limited resources in order to improve innovativeness and enhance competitiveness. Nearly all Western Balkan countries have introduced a form of competitive financing of innovation projects, and some even introduced international verification in the process of evaluation. However, despite these achievements, the Western Balkan countries have yet to overcome numerous challenges which they are faced with, both individually and in general, in order to build their economies successfully, based on knowledge, innovations and competitiveness.

6. LITERATURE


ON THE EFFECTS OF INTERDISCIPLINARITY AS A DRIVER OF GROWTH FOR INNOVATIONS IN EDUCATION AND ECONOMY – EXEMPLIFIED BY THE FOUNDING OF THE NEW HAMM-LIPPSTADT UNIVERSITY OF APPLIED SCIENCES IN GERMANY

Klaus Zeppenfeld

Abstract: In Germany, there is an ongoing discussion about whether university graduates lack certain essential qualifications – in particular, the capacity for interdisciplinary thinking and mastery of key competencies such as effective project management. This is part of the discussion on education policy as economic policy, in other words, the way in which governments should adjust public (and private) education to support the economy.

This paper documents a particular instance of education policy as economic policy: The founding of Hamm-Lippstadt University of Applied Sciences (HSHL) by the state government of North-Rhine Westphalia in Germany in 2009. It presents the background of the state government’s decision to found several new universities of applied sciences and discusses why one of these universities was founded in the cities of Hamm and Lippstadt. The central reason was that the economy in both cities was suffering from a lack of specialists in engineering and applied natural sciences. Hamm had been struggling to compensate the decline of coal mining. Lippstadt has a long tradition of high-technology manufacturing, but local enterprises were only barely able to attract a sufficient number of specialists to this relatively rural area.

Interdisciplinarity plays a key role in this case study because it plays a key role at HSHL. It was determined at an early stage that interdisciplinary degree programs, a corresponding organizational structure and an emphasis on key competencies would be important in order to supply local enterprises with qualified graduates. Since it took several years for the new university to reach capacity in terms of the number of degree programs as well as enrolment, it is too early to determine conclusively whether this goal has been reached. Preliminary evidence in the form of feedback from alumni and local enterprises is promising. The founding of HSHL can thus be seen as a successful instance of education policy as economic policy – one in which interdisciplinarity has played a key role.

Keywords: economic policy, education, interdisciplinarity, innovation, growth

JEL: I23
Field: Economics

1. INTRODUCTION

There is an ongoing discussion in German higher education about whether universities are equipping their students with the right skills for the job market, or whether the graduates lack certain essential qualifications. It appears that the companies...
who employ these graduates are not so much concerned with their knowledge within their particular field of study. Rather, companies lament that their new employees are struggling to make connections between this niche knowledge and other relevant subject areas; and that they lack certain key competencies (or meta-skills) such as effective project management and communicative skills.

This discussion is part of a larger discourse on education policy as economic policy. As will be briefly described at a later point, governments – municipal, state and national – have long sought to calibrate their public education systems (as well as the private, for-profit education sector, usually by way of regulations and tax incentives) so that they may better support the economy. Naturally, this is not the only goal of public education (and publicly regulated for-profit education). In particular, public education is also meant to instill certain values in the citizenry. Education policy must thus not be seen solely as the “maidservant of economic growth” (Ealy 2014, p. 1). But it is certainly one of the more important means that governments have at their disposal in order to try and ensure that the economy is in good shape.

This paper will document a particular instance of education policy as economic policy: The founding of HammLippstadt University of Applied Sciences (HSHL) by the state government of North Rhine-Westphalia in Germany in 2009. More specifically, it will demonstrate the role that interdisciplinarity has played in the university’s attempt to supply the local economy with qualified graduates that meet market demands.

Following a brief general discussion of education policy as economic policy (section 2.1), this paper presents the background of the state government’s decision to found HSHL (section 2.2). The preconditions in the cities of Hamm and Lippstadt were quite different from each other: Hamm is a former coal-mining location on the eastern edge of the Ruhr region. The profitability of coal mining in the region had long been declining, and the last mine in Hamm was closed in 2010. Ever since coal mining peaked several decades ago, there have been active measures to resolve this massive structural change. The economic structure of Hamm and similar cities is already much different from the days of coal. There is now the new concern of maintaining this momentum by ensuring an appropriate supply of well-educated specialists. Lippstadt, on the other hand, was never faced with the challenge of the coal phase-out: Although it is located only 40 kilometers east of Hamm, it is not part of coal country. But the shortage of specialists is here perhaps even more severe. Lippstadt is home to several successful high-technology companies, mostly manufacturers in the automotive sector. They are challenged by their location in a rather rural area that used to have practically no education opportunities on a university level before HSHL was founded. Since the preconditions in Hamm and Lippstadt are evidently different, they will be presented in detail in two separate sections (2.3 and 2.4).
In a second step, this paper will show how interdisciplinarity has been a keystone in the new university’s attempt to supply the local economy with qualified graduates that meet market demands – in other words, graduates who can connect their specialist knowledge with other subject areas and who have mastered the key competencies that they require regardless of their specialization. On a general level, the paper discusses how an interdisciplinary university education is a precondition for the growth and innovativeness of an economy that relies heavily on high-technology manufacturing (section 3.1). Subsequently, it will demonstrate what impact this requirement has had on the degree programs and organizational structure of HSHL (section 3.2). It will become apparent that interdisciplinary education is not only a matter of truly interdisciplinary degree programs that combine two subjects, such as HSHL’s Bachelor’s program *Technical Management and Marketing*. It is equally important that the university provides students with additional opportunities to engage in practical interdisciplinary projects and to study and practice key competencies.

Naturally, it took several years for HSHL to reach capacity in terms of the number of degree programs and enrolment (the final capacity of 5,000 students was reached in 2016). That is why it is not possible to evaluate the results of the approach taken by the new university just yet. By implication, it is too early to determine conclusively whether the economic-policy goal of the state government has been reached. However, preliminary evidence in the form of feedback from alumni and local enterprises is promising. For now, the university can thus be seen as a regional driver of growth and innovation, and as a successful example of education policy as economic policy. These findings will be presented in more detail in the concluding section of this paper (section 4).

**2. EDUCATION POLICY AS ECONOMIC POLICY: THE FOUNDING OF HAMM-LIPPSTADT UNIVERSITY OF APPLIED SCIENCES**

**2.1. BACKGROUND: EDUCATION POLICY AS ECONOMIC POLICY**

The way in which a government arranges its education system – in other words, the government’s education policy – is often used as economic policy. For example, the choice of subjects that is chosen to be taught and researched at public universities is made partly in consideration of the benefit that this choice will have for the economy. This is because companies depend on the education system for research and, perhaps more crucially, to equip highschool and university graduates with the skills that help them contribute to the companies’ creation of value. In fact, the notion that “education policy is economic policy [...] represents the predominant worldview among policymakers today” (Ealy 2014, p. 1).
This was not always the case. In Europe, until the 18th century, the thin stratum of highly educated members of society was convinced that the largest part of the population would need to remain uneducated and supply only raw physical strength for society to prosper (Pechar 2016, p. 18). According to Pechar, even the introduction of compulsory schooling in the 19th century, when industrialisation had already begun, was not made with a view to provide more-educated and thereby more-productive workers. Rather, it served foremost as a tool of “social disciplining” and to “ensure political loyalties” (Pechar 2016, p. 19).

It was in the second half of the 19th century, when industrialisation was finally in full swing, that the economy required larger numbers of qualified, educated workers. This was not only due to the shift from agriculture to manufacturing: The service sector was beginning to gain noticeable importance as well (Pechar 2016, p. 19). Today, the vast majority of jobs require several years of schooling, and a considerable share require higher education – though it is in dispute whether a university degree is truly needed to perform the work, or whether there has been some “degree inflation” (Rampell 2014, p. 1).

In any case, while one must be careful not to see education solely as the “maidservant of economic growth” (Ealy 2014, p. 1), education policy has certainly been widely employed as economic policy since the overwhelming shift from agriculture to manufacturing and services in the 19th century. To cite one of many examples (this one documented by a study that describes the measures as well as the outcome), authorities in Italy employed education policy in the higher-education sector – that is, restructuring of the local universities – specifically as an intervention to foster economic development in the southern part of the country (Moscati & Pugliese 1993, p. 1).

The particular measure analysed by Moscati and Pugliese (1993) appears to have been only partly successful. They attribute this failure to the fact that it targeted universities to the neglect of elementary and secondary education. This is why it may serve as a cautionary tale about an excessively narrow focus in education policy. In her review of a different study, White (2015) affirms that the focus of education policy must be wide enough. She also points out that it is not just local enterprises whose welfare should be the goal of education-policy interventions, but also the economic well-being of the population at large: “Greater availability of apprenticeships or job-training programs”, i.e., interventions below the university level, “could also help enhance labor market outcomes for those who find themselves on the lower rungs of the skills and wage scale.” (White 2015, p. 1)

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2 Ealy (2014) is of the opinion that “[e]ducation policy cannot suffice for good economic policy, which should instead be focused on issues such as providing for sound and stable money, constraining government spending and public debt, ending crony capitalism, and repudiating the kind of regulatory and confiscatory despotism that crushes real entrepreneurship and job creation.” She is quite clearly on the libertarian side of the discussion on education policy.
That being said, the Italian government’s intervention in Southern Italy may none-
theless serve to demonstrate how education policy – particularly in higher education – is now consciously employed to support economic development. As Moscati and
Pugliese put it, this type of policy has “been given increasing importance in the plans for government intervention for [economic] development” (Moscati & Pugliese 1993, p 1). The following sections will document another example, as described in the in-
troduction. They will illustrate why the state government of North Rhine-Westphalia decided in 2008 to found several new public universities. Separate sections will de-
scribe the situation as it presented itself in Hamm and in Lippstadt, which submitted a joint proposal that was eventually approved along with two others.

This description – of the founding of Hamm-Lippstadt University of Applied Scienc-
es as an instance of education policy serving economic policy – will serve as ground-
work for the subsequent chapter. As set forth in the introduction, the goal of that chapter will be to demonstrate the key role that interdisciplinarity has played and is still playing in this project.

2.2. THE INITIATIVE TO FOUND NEW UNIVERSITIES IN NORTH RHINE-WESTPHALIA

The shortage of specialists – which is particularly noticeable in the engineering sector – is increasingly proving to be an impediment to economic development in North Rhine-Westphalia. That is why the state government intends to found three new uni-
versities of applied sciences and strengthen the continued development of the existing universities. Universities of applied sciences are especially suited for this endeavour because [in comparison to research universities] they have a stronger focus on the immediate demands of the economy. It is intended that the new universities will teach mostly engineering [and applied natural sciences]. (Coprian et al. 2008, p. 7)

This is the opening paragraph of the 279-page proposal that the cities of Hamm and Lippstadt jointly submitted to the state of North Rhine-Westphalia in August 2008. Interestingly, the bulk of the proposal document consists of written statements of support from local enterprises. This is a neat illustration of two things about the proposal: First, that the meaningfulness of founding a university in Hamm and Lippstadt was evident enough to not require the full 279 pages to demonstrate; and second, that these local enterprises were very supportive of the proposal, specifically and expressly because of the shortage of specialists that they were experiencing at the time.

The above quotation points to the central motivethat the state government had for soliciting proposals and allocating the budget that would be required to establish and run these new universities: the shortage of specialists with an engineering education.

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3 The proposal submitted by the cities of Hamm and Lippstadt (Coprian et al. 2008) was written in German. Translations of all direct quotations from this proposal were prepared by the authors of this paper. This applies to direct quotations from other German sources in this paper as well.
on a university level. This is despite the fact that manufacturing itself had been partly outsourced to countries with lower wages: “It appears that Germany is following its very own path in this era of globalisation: Production itself is largely relocated abroad, but at the same time – at least as long as the economy is growing⁴ – demand for personnel in manufacturing is [nonetheless] picking up, especially for well-qualified engineers.” (Coprian et al. 2008, p. 20)

Demographic factors were relevant as well. The population of North Rhine-Westphalia and of Germany as a whole is generally aging and shrinking (Coprian et al. 2008, p. 16). This is only partly offset by immigration. But it was clear in 2008 that the number of people in North Rhine-Westphalia who would seek university admission – as far as could be legitimately forecast – would be considerably higher throughout the next years than it had been in 2005 (Coprian et al. 2008, p. 17).

There were three reasons for this development:

1. The birth rate in Germany did not drop significantly until the early 1990s, so a few relatively large age cohorts were still only midway through secondary school when the state government published its call for proposals (Statistisches Bundesamt 2017).
2. Secondary education in the state of North Rhine-Westphalia had previously been modified in one very relevant way: The time students would spend at elementary and secondary schools in order to gain university admission had been shortened from thirteen years to twelve. It was therefore foreseeable that there would be a spike in 2013, when the “double graduating class” would leave high school and – some of them – seek admission to the universities in the state (Ministerium für Innovation, Wissenschaft, Forschung und Technologie des Landes Nordrhein-Westfalen 2008, p. 2).
3. The rate of high-school graduates in North Rhine-Westphalia who would go on to seek admission to university instead of vocational training or employment was comparatively low (Coprian et al. 2008, p. 19), at least in the particularly relevant segment of high-school graduates with Fachhochschulreife (qualification to gain admission to universities of applied sciences, but not to research universities). So there was still quite a lot of potential, which – if tapped into – would lead to additional applications for admission to the universities of applied sciences in the state (ibid).

In summary, the state government’s initiative to found new universities was expressly motivated not just by the shortage of specialists (the demand from companies), but

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⁴ The recession that was felt most keenly in 2008 and 2009 really only hit after the proposal was written, so the caveat that the shortage of specialists was dependent on a growing economy seems wise. Luckily for HSHL as well for the country as a whole, Germany was not affected by the recession as severely as some other countries, so the shortage of specialists did not subside in a substantial manner in the years after the new university was founded.
also by the foreseeably higher demand for higher education from the students’ side (Coprian et al. 2008, p. 12).

The authors of the Hamm-Lippstadt proposal added specific arguments for the cities of Hamm and Lippstadt in particular. As pointed out earlier, the case of Hamm was (and still is) quite different from that of Lippstadt, even though both cities are only 40 kilometres apart (Figure 1). This is why these two cases will be described separately in the following two sections.

**Figure 1: Location of Hamm and Lippstadt within the state of North-Rhine-Westphalia.**

![Location map of Hamm and Lippstadt](https://demaps.com/cartes/6360.png)


However, there is one factor that both cities shared with each other – but not with the rest of the state as the demographic factors described above: The region around Hamm and Lippstadt used to be almost a blank space on the map of universities in North Rhine-Westphalia (Coprian et al. 2008, p. 13). The state is densely settled, which is yet another legacy of the coal era. Among the sixteen German states, it is fourth-largest by area, but largest by population (18 million out of 82 million). So people did not need to move long distances to attend the nearest university even before
the gap around Hamm and Lippstadt was closed. But this gap aggravated the shortage of specialists in the districts without their own university because it is difficult to make graduates move there – or move back, if they had grown up there, once they have left their hometown for university. The proposal put it as follows: “Once young people have left the region in order to study somewhere else, they usually don’t return but stay in those metropolitan areas.” (Coprian et al. 2008, p. 14)

Lastly, it should be noted that in Germany, degree programs in engineering and applied natural sciences are rarely offered by private universities because of the high cost of equipping and running the laboratories needed for appropriate training (Coprian et al. 2008, p. 10). This appears to be one of the reasons why the state government did not try to incentivise the formation of new private universities but opted to found new public universities instead. Another reason may be the fact that higher education is traditionally a public matter throughout the country. There are few private universities, and none of them is remotely as large as the largest public universities. The most prestigious universities – such as RWTH Aachen – are mostly public as well.

2.3. SITUATION IN HAMM

As mentioned briefly in the introduction, Hamm (population 180,000) is a former coal-mining location on the eastern edge of the mighty coal deposits along the Ruhr, Emscher and Lippe rivers. The profitability of coal mining in this area – the Ruhr region – had long been declining. The last active mine in Hamm was closed in 2010 (Hallberg 2010). In 2011, shortly after the last mine in Hamm was closed and HSHL was founded, the federal government confirmed that it would stop subsidizing underground coal mining throughout the country (Deutsche Presse-Agentur 2011). Without subsidies, the mines would operate at a loss. At the time of the federal government’s final decision, five underground coal mines were still in operation. They employed a staff of 25,000, down from around 500,000 in West Germany alone during the postwar peak (ibid).

This major shift in the economic structure put pressure on the economy in Hamm and similar locations. Since the peak of coal mining, there have been active measures to resolve this massive change. The economic structure of Hamm and similar cities in the Ruhr region is already much different from the days of coal. New types of businesses have developed, and there is now the new concern of maintaining this momentum by ensuring an appropriate supply of well-educated specialists.

This was the core of the argument presented for Hamm in the Hamm-Lippstadt proposal in 2008:

The structural change towards a modern location of the knowledge and technology economy is far from complete in Hamm, but it is in full progress. In this phase, [the establishment of] a university of applied sciences in [Hamm]
would function as a catalyst for a positive development. (Coprian et al. 2008, p. 24)

Of course was not a new idea to support structural change through increased spending on science, research and education. In fact, the state of North Rhine-Westphalia had been doing this since at least the 1960s (Coprian et al. 2008, p. 25). Many of the universities in the state were founded around 1970. In fact, there was one early but short-lived project to have a university in Hamm from 1964 to 1969: The Pedagogic University, which provided teacher education, was founded specifically in the context of the coal decline, but it was soon integrated into the University of Dortmund (Coprian et al. 2008, p. 30).

The establishment of a small private university in Hamm that provides degree programs in the logistics sector in 2005 (Coprian et al. 2008, p. 26) did show some success, but could only do so much. There have also been numerous other initiatives to support education in the Ruhr region, such as the one documented by Simon (2014), which focused on continuing education of personnel at local companies. Other means of structural change – such as the repurposing of former mining sites – had been deployed in Hamm with some success as well, but they were not sufficient to solve the problems that the decline of coal mining was posing (Coprian et al. 2008, pp. 25–26).

So even though the idea of education for structural change was by no means new, Hamm was left out in terms of higher education towards engineering degrees. This was in line with its general lagging behind in terms of this structural change when compared to other cities in the Ruhr region (Coprian et al. 2008, pp. 24–25).

On a positive note, Hamm had – and still has – a relatively young and growing population. It is also very well positioned in terms of transport infrastructure, which explains the focus on logistics at the private SRH University (Coprian et al. 2008, pp. 23–24). Its train station serves as a hub at the intersection of two important railways. Similarly, two of the most important long-distance motorways in Germany – the A1 and A2 motorways – intersect only ten kilometers south-west of the city.

In summary, one could make the argument – as the Hamm-Lippstadt proposal did – that Hamm had not fully tapped into its potential for successful structural change because it lacked the requisite higher-education opportunities. This is important to keep in mind when the question of how the new university was eventually developed is discussed in chapter 3 of this paper.

2.4. SITUATION IN LIPPSTADT

Lippstadt (population 67,000) was not faced with the challenge of the coal phase-out. Though it is only 40 kilometres east of Hamm, it has no significant history of coal mining. The deposits exploited throughout the Ruhr region did not stretch this
far to the east. So the shortage of specialists in the engineering sector that was felt in Lippstadt was not the product of structural change: On the contrary, it was the product of a long-standing tradition of successful high-technology companies, mostly in the automotive sector. For example, Hella (HellaKGaAHueck& Co.) supplies lighting technology and electronic products for numerous car manufacturers. Similarly, BHTC (Behr-HellaThermocontrol GmbH) is a world leader in control panels for air conditioning in cars, and currently (as of 2017) branching out into multipurpose center stacks.

These companies are challenged by their location in a rather rural area that used to have – at the time of the Hamm-Lippstadt proposal in 2008 – practically no education opportunities on a university level. This is neatly illustrated by the population structure of Lippstadt in 2008 (Coprian et al. 2008, pp. 32–33 and p. 36). On the one hand, the share of the population that was employed as engineers (or physicists, chemists and mathematicians) was 7.2 percent, compared to 2.4 percent in the state as a whole. But on the other hand, though the population was growing, it was shrinking in the age bracket of 18 to 30 years. This demonstrates both the demand for engineers at local enterprises and the problem that high-school graduates were leaving for education opportunities elsewhere, and possibly even doing so at an increasing rate.

3. INTERDISCIPLINARITY AS A KEYSTONE IN THE UNIVERSITY’S CONCEPT

3.1. INTERDISCIPLINARITY AS A NECESSITY FOR GROWTH AND INNOVATION

The proposal to found a new university in Hamm and Lippstadt, based on the state government’s earlier call for such proposals, was approved in November 2008. The university was officially established in early 2009. The government pledged to invest an additional 1 300 million euros from 2008 through 2020 to establish and fund this and three other new universities, and to strengthen existing universities. Apart from HSHL (https://www.hshl.de/en/), approval was given for the new Rhine-Waal University of Applied Sciences (https://www.hochschule-rhein-waal.de/en) and Ruhr West University of Applied Sciences (https://en.hochschule-ruhr-west.de/).5 All of them have at least one campus inside the former coal-mining areas of North Rhine-Westphalia: Hamm, Kamp-Lintfort (Rhine-Waal) and Mülheiman der Ruhr as well as Bottrop (Ruhr West).

From the outset, it was the explicit intention of the state government to found universities of applied sciences. After all, the government’s central goal was to support the structural change that had been triggered by coal’s lack of profitability and the

5 Additionally, the state established a university specifically for health-care professions, called Hochschulefür Gesundheit (University of Applied Sciences for Health, https://www.hs-gesundheit.de/en/standard/start/). This was decided at the same time, but it was a separate call for proposals that has little bearing on the topic of this paper.
consequent shortage of specialists needed in the new economic environment (in addition, the Hamm-Lippstadt proposal cited the unrelated and long-standing shortage in Lippstadt as a reason why there should be a campus there as well). What makes universities of applied sciences especially suited to this task is their orientation toward practical training and the fact that professors at such universities need to have several years of industry experience in order to be employed there (Coprian et al. 2008, p. 44). Incidentally, universities of applied sciences also have a good track record of spawning new enterprises: Not just spin-offs of the university itself, but also start-ups founded by students during their time there or upon graduation (Coprian et al. 2008, p. 47).

The government therefore directed their newly pledged funding not to research universities but to new universities of applied sciences and towards investment in the existing universities of applied sciences. What is more, the Minister of Education at the time stated that “in the medium term, we would like to raise the percentage of students [in North Rhine-Westphalia] who study at a university of applied sciences [as opposed to a research university] from currently 25 percent to 40 percent.” (Ministerium für Innovation, Wissenschaft, Forschung und Technologie des Landes Nordrhein-Westfalen 2008, p. 2)

At this point, it is important to note that offering applied-sciences programs is only one step towards supplying the economy with the specialists that are required. It is equally important to ensure that the graduates have the right skill set over and above their theoretical and practical skills in a particular subject—in other words, interdisciplinary competencies. This was and is the conviction of the leadership at HSHL. The section following this one will describe how interdisciplinarity has shaped the degree programs and organizational structure of this university. The remainder of this current section will lay the groundwork by exploring, on a more general level, how and why interdisciplinary training is essential to economic growth and innovativeness.

In general terms, many current and future issues require interdisciplinary thinking— for the simple fact that our world is becoming ever more complex: “Interdisciplinarity is essential because most systems of our world are complex” (Vollmer 2013, p.47). As Dirsch-Weigand (2016) points out, this is not only true for global challenges like climate change, health issues (such as antimicrobial resistance) or sustainable energy production, which can be mastered only when the perspectives of many different disciplines are combined. Rather, “any innovation requires the willingness and ability to

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6 Universities of applied sciences do research as well, especially in collaboration with local companies. But their focus is on teaching: For example, professors at universities of applied sciences need to teach many more hours per week than their counterparts at research universities, who are in turn expected to publish much more.

7 The author of this paper has served as president of HSHL since the founding in 2009.
work in an interdisciplinary team” (p. 38, emphasis added). Therefore, graduates need to be willing and able to work across traditional subject areas.

Rogalla (2014) analyses the professional requirements for engineers in particular. She observes that many engineering students are quite literally shocked at “how things are done in the real world: Their academic studies did not prepare them for the requirements in their field of work” (p. 259). Engineers face problems that cannot be solved by technical solutions alone: For example, product development must include anticipation of market trends, assessment of the company’s means of production, consideration of investment opportunities and many more aspects. Thus, technical solutions are only one part of an overall solution, which is developed by an interdisciplinary team consisting of engineers as well as representatives from procurement, sales, finance and other divisions (ibid, p. 260).

The requirement for graduates to think in an interdisciplinary way – which is surely not new, but is becoming ever more important – has had an impact on higher education not just at HSHL, but more generally as well. The agreements that form the Bologna Process stipulate that competence-oriented instruction is a key demand for higher education (Terizakis 2015, p. 105). The assumption is that the ability to solve problems increases proportionately as problems are addressed in an interdisciplinary manner (ibid, p. 106). The fact that interdisciplinarity is regarded as a key competence is also confirmed by an increasing number of projects carried out by higher-education institutions that focus on competence development through interdisciplinarity right from the beginning of their degree programs.  

Of course, strictly speaking, interdisciplinarity is no competence in itself. It is better described as the ability for interdisciplinary collaboration (Jungert 2013, p. 1), or regarded as a combination of social, methodical and individual skills. Most important among these skills are the capacity for successful teamwork, communicative skills and the ability to reflect upon one’s own course of action (Lerch 2014, p. 90–91).

In order to determine what this should mean for the development of a completely new university, it is helpful to consider what position the local enterprises that supported the Hamm-Lippstadt proposal – and confirmed the need for graduates with the right skill set – expressed in regard to interdisciplinarity. A spokesperson for GRT GmbH & Co. KG (a manufacturer of roto gravure cylinders in Hamm) put it as follows in his company’s statement of support in 2008: “No enterprise can nowadays afford to ignore the bigger picture outside their current area of expertise.” In order to hold one’s ground in a globalized marketplace, you have to find new potential uses for your products, keep on learning and educating yourself, be open for new things. That

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8 For instance, there is a project at Technische Universität Darmstadt called “Competence Development through Interdisciplinary and International Cooperation from the Start (KI²VA)”.

9 In the original German version of the statement, the spokesperson employs the common and vivid German expression of “looking beyond the edge of one’s own dinner plate”.
applies to small craftspeople’s businesses as well as to large high-tech enterprises.” (Coprian et al. 2008, p. 29) Naturally, a company can only accomplish this if the staff has the appropriate skills and attitude.

3.2. IMPLICATIONS FOR EDUCATION AT HAMM-LIPPSTADT UNIVERSITY OF APPLIED SCIENCES

An orientation toward practical training is typical of universities of applied sciences (Coprian et al. 2008, p. 42), as pointed out above. HSHL strengthened this orientation by including a one-semester mobility window in each Bachelor’s program, as an opportunity for internship placements and studyabroad periods. In addition to this practical focus, the leadership of HSHL has been guided by the conviction that interdisciplinary education is also essential for the growth and innovativeness of the local economy– for the reasons set forth in the preceding section. Lastly, the opportunity for students to gain key competencies was emphasized as well. The local enterprises that provided input for the Hamm-Lippstadt proposal had stressed social skills in particular: “Over and over, the panel in charge of the proposal was told that the enterprises increasingly expect graduates to have [excellent] social skills.” (Coprian et al. 2008, p. 53) This section will discuss which measures were taken by the leadership of HSHL to purposefully foster interdisciplinarity as well as key competencies – which can be regarded as interdisciplinary (or meta-disciplinary) in their own right, as discussed above.

First, the type and layout of the degree programs was an obvious opportunity to give education at HSHL a decidedly interdisciplinary bend. Several programs are interdisciplinary at their very core, such as Mechatronics (Bachelor of Engineering), Visual Computing and Design (Bachelor of Science), Biomedical Engineering (Bachelor of Engineering), Sports and Health-Care Engineering (Bachelor of Engineering), Technical Management and Marketing (Bachelor of Science) and Industrial Engineering with Business Studies (Bachelor of Engineering). Mechatronics, for instance, was one of the first two programs introduced in 2009. It is an interdisciplinary engineering program that combines mechanical engineering, electrical and control engineering and computer science. The program Industrial Engineering with Business Studies, as another example, educates engineering graduates with knowledge in both fields: technical processes and business issues.

Interdisciplinary degree programs are not the only opportunity for students to gain and practice interdisciplinary skills. The mobility semester mentioned above, and the obligatory practical projects that students also need to complete before they tackle their Bachelor thesis, contribute as well. This is because internships and practical projects – which are often carried out in cooperation with local companies – do not

10 HSHL is by no means the only university that employs a mobility window, but the fact that this is part of almost every Bachelor’s degree program at this university is still noteworthy, even in 2017.
only enhance the students’ perspective on their own subject area. They provide them with the much-needed early insight that the bigger picture is crucial to any project’s success.

Moreover, working on real-world projects at several points during their degree program helps students gain key competencies in an organic way. They can apply what they have learned in the modules called Personal Skills and Competencies that are spread throughout the early semesters of every Bachelor’s program. These modules cover, amongst other topics, self-management, self-reflection, communicative skills and teamwork. It is obvious that applying these skills immediately, instead of waiting for them to become relevant after graduation, strengthens the effect of the Personal Skills and Competencies modules.

The students who choose a study-abroad semester at a foreign university instead of completing the mobility semester through an internship may not gain as much practical experience as their peers. But this option should not be underrated: While they study abroad, students have the opportunity to reflect and refine their social skills by engaging with a different culture (or really a number of different cultures, since guest students from other countries will be there as well). The most fruitful option for the mobility semester is, of course, an internship placement carried out abroad. This provides students with practical training (and the ensuing insight into the importance of interdisciplinary thinking) as well as the boost to their social skills that any period spent in another country will usually provide.

Lastly, the organizational structure of HSHL was laid out with interdisciplinarity in mind. Traditionally, universities are composed of faculties and departments that have a specific focus in terms of subject area (faculties usually form the first layer of this structure, while departments are subordinate). In contrast, HSHL is segmented into four departments that incorporate diverse subject areas. They are consequently not named after a certain subject, but simply numbered (Department Hamm 1, Hamm 2, Lippstadt 1 and Lippstadt 2).

One reason for this structure is organizational: Departments spanning both campuses would not have been practical for day-to-day operation, so combining similar degree programs taught on different campuses into one department that spans both campuses would not have been feasible. Second, and more importantly, breaking down the barriers between different subject areas at the organizational level – by combining diverse degree programs into interdisciplinary departments – allowed for greater flexibility in the layout of the programs. In each department, experts from the traditional disciplines can meet, cooperate and develop new ideas for instruction and research.
4. CONCLUSION AND OUTLOOK

This paper has documented the founding of Hamm-Lippstadt University of Applied Sciences (HSHL) as an example of education policy as an economic policy. It has also described how interdisciplinarity shaped the degree programs and the organizational structure of the university. This current section will explore whether the founding of the university has produced the desired effect on the economy of the Hamm-Lippstadt region, as far as it can be judged after only a few years.

Since it was established in 2009, HSHL has grown continuously. Instruction started with two bachelor’s degree programs and 80 students in 2009. As of 2017, the university offers 14 bachelor’s and 5 master’s degree programs. The student population has grown steadily to more than 5,000 in the academic year of 2016/17.

Figure 2: Regional origin of the majority of students (73 percent) at HSHL.
majority of new students is indeed of local origin. 34 percent are from the city Hamm or the district of Soest, in which Lippstadt is the largest city. Another 39 percent are from the neighboring districts Unna, Warendorf, Gütersloh, Hochsauerlandkreis or the cities of Paderborn, Dortmund and Münster (see Figure 2 for a map of these districts and cities).

These figures illustrate that the university has succeeded to retain a significant number of high-school graduates in the region.

It is more difficult to evaluate the university’s effectiveness with regard to its more overarching goal – to supply the local economy with qualified graduates and thereby act as a driver of economic growth and innovativeness. This is because it took several years for HSHL to reach capacity in terms of the number of degree programs and enrolment. The Bachelor’s programs that were established most recently have not produced any graduates so far. Of the graduates that do have completed their studies, a significant part continues their education with a Master’s program and has not entered the workforce yet. It is therefore too early to determine conclusively whether the economic-policy goal cited above has been reached.

Nevertheless, feedback from those alumni who are now in regular employment is promising. Since 2015, HSHL is taking part in an annual nationwide graduate survey. The express purpose of this project is to gain insight into the effectiveness of education policy. The participants are surveyed 1.5 years after graduation. The most recent survey is currently being evaluated; so the newest results that are available are those of the 2014 graduating class (Jakob 2016, p. 1). Of the 140 graduates of that year at HSHL, 51 participated and completed a detailed online questionnaire. The most relevant results are the following:

- At the time of the survey, about 1.5 years after graduation, none of the graduates was without a job and seeking employment (some may have been on parental leave and thus not working as regular employees at the time, but not seeking employment either).
- 23 percent had found a job in either Hamm or Lippstadt, and a further 26 percent had stayed in the wider region.
- 79 percent were satisfied or very satisfied with their professional situation.
- On a scale from 1 to 5 (1 being highest), the graduates assessed the practical orientation of their degree program with average of 2.2.

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11 In Germany, larger cities such as Hamm constitute their own municipality. Smaller cities do not have this privilege. They are grouped with the surrounding rural areas and neighboring cities to form a Kreis (district) that may be large by area, but not densely settled. Lippstadt is part of the district of Soest.

12 The name of the project is Kooperationsprojekt Absolventenstudien or KOAB (in English: Collaborative project Graduate Surveys). More information is available from the University of Kassel at http://koab.uni-kassel.de/was-ist-koab.
It is important to keep in mind that this is the feedback of a rather small group of graduates, and that this group of respondents was self-selected due to the voluntary nature of the survey. Nevertheless, it is apparent that the efforts of the university had shown some effect. HSHL’s graduates transition into the workforce quite seamlessly, and they frequently decide to work at local enterprises (or for public institutions in the area, which naturally have some demand for engineering and science graduates as well). Lastly, they appear to fulfil the demands of the local economy in terms of skills, at least as far as can be judged from their own job satisfaction.

This last point is crucial. Do HSHL’s graduates fulfil the need of the local economy for engineering and science specialists with interdisciplinary skills and key competencies? Apart from the graduate survey, there is tentative evidence from the local enterprises themselves that this goal has indeed been reached. These enterprises have received the graduates quite well: Informal communication with their management suggests that the companies value the practice-oriented nature of education at HSHL in particular. They are generally happy to employ students from this university for internship placements, practical projects, Bachelor’s theses and for regular full-time jobs upon graduation.

What is more, the foundations for successful spin-offs and start-ups have been laid. The first spin-offs of HSHL have been established, and graduates have founded several start-ups. Research at the university has also gained importance (a list of research projects is available at https://www.hshl.de/forschungsprojekte/). Most importantly, the Fraunhofer Institute for Applied Information Technology (Fraunhofer FIT) has established an application centre at the university: Enterprises from the wider region can utilize the research competence of the centre in order to strengthen their innovation capabilities. The researchers and students at the centre develop technological solutions for companies in a wide array of subject areas.

The outlook for Hamm-Lippstadt University of Applied Sciences is positive. Because the largest classes have only just begun their studies at HSHL, the number of graduates is projected to rise for several years. The university will thus provide more and more graduates to the local economy. The next graduate surveys as well as additional communication with local enterprises will need to confirm whether the economic goals that the university was founded to serve have indeed been reached. Adjustments to the degree programs will surely follow. But it appears that the university has been successful so far. The founding of HSHL is thus an example of education policy as successful economic policy, with particular relevance for the question of interdisciplinary education.
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hochschulen und erweitert bestehende Fachhochschulen: 11.000 neue Studienplätze – Land investiert 1,3 Milliarden Euro bis 2020. [North Rhine-Westphalia founds three new universities of applied sciences and expands existing universities of applied sciences: Added capacity for 11 000 new students – the state invests 1 300 million euros until 2020]


MACROECONOMIC EFFECTS OF VOCATIONAL EDUCATION AND TRAINING

Todor Spariosu*, Biljana Bodroski Spariosu**

Abstract The contribution of vocational education and training (VET) to economic performances and competitiveness has not been often and systematically evaluated, particularly in Serbia. This paper presents the main results of the empirical literature and discusses some of the key methodological issues relating to modeling the influence of VET on growth and productivity. Accordingly, the aim of this research is the examination of the long-term effects of VET in order to draw policy conclusions relevant for the current reform of VET system in Serbia.

The reform of vocational education and training system which has been recently initiated by the Serbian government implies the introduction of dual education – a sort of apprenticeship system similar to that in Germany and Switzerland. Hence, there is a strong reason to explore the effects of different types of vocational skills on macroeconomic performances. The focus of this paper is therefore on the estimated impact of different kinds of vocational skills on average labor productivity (ALP).

Besides introductory and concluding remarks, the paper has four sections. First section contains a comparative analysis of VET systems in Europe. It includes those with a tradition of apprenticeship, as well as those with a tradition of classroom-based vocational education. Special attention is devoted to the German apprenticeship system – to its Kerschensteiner theoretical foundations and contemporary features. The second part of the paper focuses on methodological issues and data sources relevant in research dedicated to the contribution of VET to macroeconomic performances. Growth accounting and multivariate regression analysis are two methods of quantitative analysis used in empirical studies. Regression analysis methods are superior because of their suitability to capture indirect effects of skills, such as complementarities with other production inputs. Third section contains the findings derived from empirical studies dedicated to macroeconomic effects of VET. Forth section explores the relevance of these findings in formulation of public policies. In this section, economic theory of training is presented. It outlines how to shape continual VET institutionally and by public policy.

Keywords: vocational education and training, investment in vocational education and training, human capital, technology of skills formation.

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1. INTRODUCTION

A reform of the vocational education and training (VET) system has been recently initiated by the Serbian government. The reform implies the introduction of dual education, which means a sort of apprenticeship system similar to that in Germany and Switzerland. Hence, there is a strong reason to explore the effects of different types of vocational skills on macroeconomic performances. The focus of this paper is on the estimated impact on average labor productivity (ALP) of different kinds of vocational skills. ALP – a derived macroeconomic indicator is important because it is the measure of real wages growth, and therefore of living standard. In macro research, ALP is defined as average output per unit of labor input (e.g. output per worker or per worker-hour). Similar research was conducted in the EU Centre for the Development of Vocational Education and Training (Cedefop, 2014). That research was a direct stimulus for this paper. Findings presented there are a unique comparative European experience, precious for development of the VET sector in Serbia. Such a study, demanding in terms of methodology and data, would not be possible without the prior substantial research effort effectuated in the EU KLEMS data base. EU KLEMS is the result of a research project, financed by the European Commission from 2003 until 2008, focused on analysis of productivity in the European Union at the industry level.

The key role of education in advancing economic growth and competitiveness is widely accepted. However, producing estimates of the impact of different types of skills on growth and competitiveness remains a challenge. Improvements in workforce skills are essential for European countries to achieve higher economic growth rates and compete effectively on the world market. Policy recommendation, however, rarely differentiate types of education and skill acquisition. Generally, negligible effort has been made to assess the macroeconomic effects of skills acquired through VET compared to skills acquired through other types of education (Cedefop, 2014).

2. VET SYSTEMS IN EUROPE – A COMPARATIVE ANALYSIS

2.1. GENERAL CONSIDERATIONS

Schooling systems differ in their focus on types of education. Some favor vocational education – the one that develops specific job-related skills in order to prepare students to work in specific occupations. Others favor general education that provides students with broad knowledge and basic skills (in mathematics and communication), which serves as the foundation for further learning and on-the-job training. The skills generated by vocational education may facilitate the transition into the labor market. Hence VET is very popular. But vocational skills may become obsolete at a faster rate than generic skills. This choice obviously implies a trade-off (Hanushek et al., 2017).
Countries also adopt different structure of vocational education track. Some countries (such as France, Sweden and the UK) provide VET through full-time schooling in vocational schools that offer teaching and training. Other countries (Denmark, Germany, Switzerland, Austria, and the Netherlands) provide VET through a dual system based primarily on apprenticeship learning. It includes part-time vocational schooling and training in firms that accept apprentices.

Essential characteristics of VET systems are convincingly described in the political economy or varieties of capitalism literature. Hall and Soskice (2001) have characterized cross-national differences in advanced capitalism in terms of a broad distinction between “coordinated” capitalist economies such as Germany and Japan, on the one hand, and “liberal” market economies such as the United States and the United Kingdom, on the other hand. This perspective implies distinctive institutional arrangements which in turn support specific strategies of firms in international markets. The “coordinated” market economies are characterized by “patient capital,” coordinated employers, and various forms of labor-management cooperation. The “liberal” market economies, by contrast, are defined by short-term financing arrangements, fragmented employers, and more adversarial industrial relations systems (Thelen, 2004). One of the most significant differences between “coordinated” and “liberal” market economies is that the former support more and better plant-based training.

German VET system is based on the provision of transferable occupational skills. It combines school-based learning with practical firm-based training; primacy is traditionally given to on-the-job training. The plant-based component is collectivistic, because employers train broadly in accordance with standards that are set nationally by committees composed of representatives of business and labor – not narrowly and for their own needs. Although based on firms voluntarily taking apprentices, the system encourages companies to invest in skill formation in many ways; inter alia, by providing various kinds of protection against poaching. Through strong monitoring and enforcement mechanisms it also provides guarantees that apprentices will receive high-quality training.

Alternative system is the “general skills” system of the sort that emerged in the so-called liberal market economies such as the US (Hall & Soskice, 2001). In such a system, firms are not heavily involved in skill formation and workers therefore have an incentive to acquire general skills that are broadly portable across the various industries and firms in which they might seek employment.

2.2. GERMAN APPRENTICESHIP/DUAL SYSTEM

German apprenticeship system has always been in the center of academic interest, since it has been considered as one of the pillars of German economic competitiveness. It provides basic vocational training to a large share of the workforce.
two thirds of the age-group from 15 to 24 attends vocational education through the apprenticeship system. Apprenticeship training is well-structured and leads to a certified qualification widely recognized among employers (Bornemann, 2005). The system distinctive feature is duality of simultaneous schooling and on-the-job training.

**Founding of Dual System.** Georg Kerschensteiner (1854-1932) – well known German philosopher of education is considered as its founder. He gained international reputation as promoter of two innovations: “work school” and “continuation school”, at the end of the 19th century (Knoll, 2017).

In “work school”, students were mainly working in the school's kitchens, gardens, workshops and laboratories. Kerschensteiner saw the activity in the “work schools” primarily as a combination of manual work and intellectual assessment of that activity. His laconic conclusion was – learning from books must be turned into learning by doing. This goal had to be achieved through four educational tasks, by upgrading students learning motivation, their problem-solving capacity, self-esteem and their moral character. Thus, the essential feature of work in the pedagogic sense is its planning and independent performance in accordance with the nature of the task, and the possibility of self-review. The essential thing is not the subject matter but the spirit and mentality of independency and responsible work. Of greater importance than the subject matter – practical or theoretical – is the way in which the work ethic determines the pupil’s attitudes.

“Continuation school” was a mandatory part-time school for all the boys and girls between the age of fourteen and seventeen who had finished the compulsory eight-year elementary school and were working. As apprentice and young employees they received eight to ten hours of instruction weekly. In addition to practical training, they attended classes in religion, mathematics and civics – subjects that were taught in close connection with their specific vocation (Knoll, 2017). The main task of schools was to develop skills and abilities for performing any activity precisely. In the school the student develops his willingness, intellect, fineness of feelings, precision, willful attention, and aesthetic taste. Kerschensteiner thought that a school, in which there is no manual work at all, can also be considered as a work school.

The “work school” and “continuation school” were focused on the development of useful and purposeful citizens. First, by guiding the student to proper life occupation. Second, by cultivating the idea that each vocation had its place in servicing the society. And third, by teaching the students that through vocations society becomes a more perfect community. Kerschensteiner insisted on students’ practical dispositions built in a specific learning process, through their active participation in work projects and extracurricular activities chosen in accordance with their own interests. This work ethic implies organization of independent individual work into a working community, where the teacher directs the students by advising and through practical help, like a master craftsman guides the work of his apprentices. Work that is offered
in schools should be real and performed jointly. It should also stimulate development of positive character traits – independence, cooperation, experience, self-education. However, Kerschensteiner points out that the main aim of education should be citizenship. He is considered as one of the founders of the German system of education because his *continuation school* is treated as a forerunner of modern dual system.

Kerschensteiner legacy is highly relevant nowadays, because his vocational education concept is modern. It includes not only manual skills, but also team-working capacity and a broad knowledge base on which further learning and adaptation can be built. Modernity of this concept of vocational education and training arises from its compatibility with quality competing strategy. That is the strategy by which firms compete by quality of their products. This strategy is essentially different from price competing strategy. That is the one by which firms compete by low prices of their products. Proper strategy for success in contemporary conditions of globalized markets is to compete on quality. There is an internal market for quality goods and their production provides to such economies another competitive advantage that relies on superior education and training (Winch, 2006).

**Skill equilibrium debate.** In close relation to this issue is the skill equilibrium debate. In one important contribution Finegold and Soskice (1988) examined the institutional basis of Germany’s “high skill” and the United Kingdom’s “low skill” equilibrium. In particular, they argued that Britain’s chronic undersupply of training went back as *public good* or *free rider* problems. Resulting scarcity of skills in the economy encouraged firms to pursue product strategies based on low skills, which in turn discouraged investment in skills, and so on. Quite different was the situation in Germany. In this country, they noted high skills, high wages, and high quality equilibrium.

Basic premise of this discussion is that broader institutional structures within which employers operate really determine whether they will opt for the low skills or high skills route to productivity and capital accumulation. Key question is *why* and *how* some societies, such as Japan and Germany, have developed institutional structures that encourage employers to follow the high skills route and why other societies, such as the UK, have institutions that generate a low skill route? The answer to the question *why* is based on economic reasons. The answer to the question *how* is by commitment: a high skill route implies some form of coordination of work-based learning necessary for the effective use of the high value-added production technologies. Moreover, such learning requires an adequate combination of both theoretical and practical skills. In Germany, both of these were achieved through an extensive coordination of the apprenticeship system, involving employers, the federal and state governments and the trade unions. On the other hand, because Britain was the first to industrialize and because it had captive markets for a long time, the low skill route has remained a viable route to capital accumulation. Ruling elites have never seen the need to question this strategy (Ashton & Green, 1997).
German VET system has another feature. At a higher education level, Germany differs from many other countries by its long-established graduate-level courses of practical or occupation-specific nature in Fachhochschulen (‘universities of applied sciences’) which operate in parallel with traditional, ‘academic’ university courses.

3. METHODOLOGICAL ISSUES

3.1. QUANTITATIVE METHODS

For a long time an influential macroeconomic literature focused on the topic of how education – a measure of human capital, could generate long-term and sustained economic growth. Theories of economic growth consider, inter alia, the role of human capital and different mechanisms through which it affects growth. The relation between human capital and economic growth is being studied in the frameworks of two theoretical approaches. The first is the augmented neo-classical approach, and the second is the approach of new growth theories.

In the first approach, the aggregate production function of standard neoclassical growth model is extended by adding human capital as an additional input. In early growth accounting studies, labor quality or skills were not explicitly included in the production function and therefore the contribution of skills to output growth showed up in the residual – total factor productivity (TFP). However, as long as the shares and labor compensation of different qualities or types of labor could be identified, in simple growth accounting framework quantification of the contribution of those different types of labor inputs to output and productivity growth became possible. This approach in the analysis of contribution of human capital to growth is often called labor-augmenting approach. It belongs to the tradition of neoclassical growth theory. It is still based on the assumption of decreasing returns to capital, although concept of capital is defined differently.

In the endogenous growth models, total factor productivity is determined internally, instead of being driven by exogenous technological progress. Unlike the neoclassical theories, endogenous growth models explicitly included education whose role consists in increasing the innovative capacity of the economy through developing and adopting new ideas and technologies. In other words, in new growth theories, the firms and other economic agents can affect, through their decisions, the adoption and development of new technologies, so that technical change becomes endogenous to the models (Romer, 1986; Lucas, 1988; Aghion & Howitt, 1998). Based on early results of Nelson and Phelps (1966), in this theoretical framework decisions to invest in human capital were modeled as one of the possible ways through which agents can influence technological change. The interactions between human capital and technology become the core of the analysis. Depending on the model specifications,
diminishing returns no longer play a crucial role. In equilibrium, growth can emerge through accumulation of human or innovation capital. Endogenous growth models have been developed further so that R&D expenditures or the number of researchers drive the growth process. Discussions point the two faces of R&D. In the technology frontier countries, R&D increases the innovation rate, and it also raises the absorptive capacity of economies to new ideas.

Two methods of quantitative analysis are appropriate in investigating the relationship between production inputs, such as skilled labor, and final outputs at a macroeconomic level – growth accounting and multivariate regression analysis. Methods differ in their assumptions and in the quantitative tools employed in the analysis. Growth models underlying growth accounting and regression-based methods typically differ sharply.

**Growth Accounting** is outgrowth of neoclassical growth theory, which assumes that technical change is exogenous in nature – it happens randomly and not as the result of actions taken by economic decision-makers. In this framework, there are diminishing returns on reproducible inputs. Growth accounting allows a decomposition of output growth into the growth of various inputs and total factors productivity. Neoclassical framework specifies an explicit model of potential output as a function of factor inputs, such as capital and labor, and an efficiency indicator termed TFP. This approach assumes a general underlying production function that maps the factor inputs to final output, representing the productive capacity of economies. Totally differentiating this equation with respect to time, under the assumption of perfect competition in factor markets (and a homothetic production function), the partial derivatives of the production function may be rearranged to decompose the growth rate of output into the sum of the growth rates of each input, weighted by their relative factor share, plus the growth in TFP. That is a measure of changes in value of output that cannot be attributed to increases in the quantity and quality of either capital or labor. To a large extent, the TFP measure captures the efficiency with which existing capital and labor resources (both skilled and unskilled) are used, but it can also reflect unmeasured (or badly measured) production inputs in growth accounting.

Common growth accounting practice is to transform basic equation in order to derive a decomposition of labor productivity into its components. Output per person hour can be decomposed into the contribution from skills accumulation, a contribution from capital deepening, which is the units of capital per hour worked, and the residual – TFP. Growth accounting – the most basic sources of growth analysis capture only the direct effects of growth in measured inputs on economic performance. It does not take account of positive effects arising from indirect impacts of inputs, such as complementarities with other production factors.

Nelson and Phelps (1966) insights ex post seem to remain relevant. They suggested that simply including an index of education or human capital as additional input in a
production function would not represent an improvement in specification of the production process, because it did not account for complementarities between human capital and technology diffusion. In Nelson and Phelps’s theoretical model, human capital is not simply another factor of production but one that enhances the ability to adopt and develop innovations and thus contribute to TFP growth. Both workers’ skills and R&D contribute to productivity growth through their effects on innovation and absorptive capacity.

**Multivariate Regression Methods** are founded on models derived from new/endogenous growth theories in which the decisions of economic agents can affect the adoption and development of new technologies; so technical change becomes endogenous and hence the name. These methods are more flexible than growth accounting in their underlying assumptions and ability to take account of unconventional sources of growth. Remarkable is their suitability to take account of sources of growth other than inputs. Such variables are research and development (R&D) spending, foreign direct investment and measures of openness designated to capture the economy’s ability to absorb technology from abroad. Multivariate regression analysis provides also more scope for taking account of interactions between production inputs and indirect effects of skills on productivity through complementarity with other inputs as information communication technology (ICT) capital. In other words, analyzing the impact of skills on productivity is difficult, because interaction between the use of different skills’ types and other production inputs such as capital and ICT is complex. However, analytic framework of multivariate regression analysis is suitable to take it into account, as much as possible.

### 3.2. SKILLS MEASUREMENT

In life cycle workers acquire human capital by schooling and through on-the-job training. Schooling provides certified skills or qualifications (general and vocational). Training (and working experience) provides important skills, but for the most part such skills are uncertified. Vocational skills, however, are acquired through formal schooling and to a great extent through informal learning/training. In researches dedicated to the impact of skills on productivity, it is important to include both types of skills. A special research challenge is therefore to derive a composite skills measure that takes account of certified and uncertified skills and complementarities between them. Two approaches are feasible.

The first is based on wage-weighted skill measure. It implies weighting the various groups of certified skills by the ratio of the wage in the group to the wage of low-skilled workers (on the assumption that uncertified skills will be rewarded in wages). Thus, aggregate labor input is usually specified as a Tornqvist quantity index. It represents a weighted sum of increments of various individual labor types (in hour worked) where weights are determined by the period average shares of each labor
type in the value of labor compensation. Under the assumption that relative wages reflect relative marginal labor products, this approach to skill measurement has the advantage of taking account of uncertified as well as certified skills. The weighting procedures ensure that labor inputs which have a higher price also have a larger influence in the labor input index; for instance, doubling the hours worked by a high-skilled worker gets a bigger weight than doubling the hours worked by a low-skilled worker.

The second approach implies developing a measure of the training stock at various educational/qualifications levels. Data concerning training are derived from surveys. This skill measure is conceived so as to capture the mix of certified and uncertified skills more directly. That means by including skills acquired through training provided by employers, as well as the qualification groups’ shares in employment. Intangible training capital stocks are derived from survey data on employer-provided training, which is the most important source of uncertified skills. Validity of this statement is not questioned by the fact that a small part of this training might lead to certification. Consequently, this measure can only be considered as an imperfect approximation of skills, since it does not include all forms of uncertified skills, such as those acquired through work experience/learning by doing or participation in active labor market programs.

Training capital stocks measures are usually derived using a methodology borrowed from the intangible assets literature. This approach treats training as an activity largely undertaken by firms which pay the direct costs of training programs and also incur indirect costs in terms of foregone production output and time. Estimating investments in continuing training by employers requires a monetary valuation of the number of hours of training received by workers. Data derived from the labor force surveys and the continuous vocational training surveys are used to estimate hours of training, calculated as numbers of workers trained times average duration of training, which are then multiplied by the average hourly cost of this training. Since average training durations are reported for the short previous periods (usually four weeks), this is converted to an annual basis.

Hourly costs have two elements: the direct costs of training (costs of running courses or external fees) and the opportunity costs of production or leisure time foregone due to time spent on training. Both time away from production and leisure are valued at the market wage. The perpetual inventory method that cumulates investments and deducts depreciation is then employed to convert real investments to capital stocks. Finally, measures of intangible investments in training by skill type, with workers disaggregated by different qualifications are estimated (Cedefop, 2014). This skill measure provides a useful check in empirical analyses for results generated using the first method.
3.3. COMPLEMENTARITY BETWEEN SKILLS AND PRODUCTION FACTORS

Theoretically one can expect numerous forms of complementarity between skills of various types and skills and other assets/production factors. First of all, complementarity between certified skills – of the same types (generic or vocational) at different levels or different orientation (generic versus vocational). Then complementarity between certified and uncertified skills. Finally, complementarity between various types of skilled labor input and ICT capital and/or other assets.

Complementarity is usually assessed by means of the Hicks's elasticity of complementarity (HEC) derived from the production function which describes how various inputs combine to produce some output. Production inputs are then classified as complements if \( \text{HEC} > 0 \) and substitutes if \( \text{HEC} < 0 \). If an input pair presents complements, an increase in the use of one input raises the marginal productivity of the other and vice versa (for given output prices and other input levels).

A degree of complementarity between various certified skill groups might be expected. Intermediate vocational skills may be complementary to high-level skills. For example, playing important support roles in product design and in improving production processes. If two skill groups are complements, productivity is improved when workers from these groups are used together (not separately). If they are quantity substitutes, the two groups of workers can only be used interchangeably (Cedefop, 2014).

A degree of complementarity might be expected as well between certified and uncertified skills. In contemporary market products, skills and knowledge are becoming obsolete very quickly and therefore have to be renewed. This means that workers who acquired qualifications through apprenticeship or full-time schooling will subsequently be forced to continuously update their skills. A strong link between the nature of initial and later skills can be expected. Hence, complementarity between one and the other type of skills.

It is necessary here to draw a distinction between initial and continual VET. Initial vocational education and training takes place before entry into the labor market – in schooling process. Continuing vocational education and training takes place at work after completing initial education. Continual VET also implies acquiring generic but labor market-related or job-specific skills. Continuing VET is mostly employer-provided. Finally, much of life-long learning is continuing VET. Initial VET precedes continual VET as certified forms of learning precede continual, and consequently one can expect complementarity between initial and continual VET. Therefore, initial is a complement – not a substitute – of continual VET.

Heckman (2005) suggest a broader theoretical perspective for complementarity between various components of human capital. He reveals self-productivity and com-
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plementarity of investment in human capital/skill formation. Heckman considers complementarity of different types of investments in human capital in the specific context of technology of skill formation. His model of skill formation is a life-cycle model. His perspective is broader since it includes abilities and earlier formative periods before schooling. Heckman (2005) argues that there are some features of skill formation process essential in conceiving human capital policy over the life cycle.

First, in skill formation the abilities are what matters. Cognitive abilities affect both the likelihood of acquiring advanced training and higher education, but also the economic returns to those activities. These abilities are both inherited and created. Second, a multiplicity of skills and many abilities are relevant for an individual's success in life. By multiplicity of skills, it means that non-cognitive skills are as important as cognitive and both affect socioeconomic success. Both are strongly influenced by family environments. Third, human capital accumulation takes place throughout the whole life. However, this process is not linear. Fourth, ability gaps between individuals and across socioeconomic groups open up at early ages, for both cognitive and non-cognitive skills. Abilities are strongly correlated with family background factors. It is possible to partially compensate for adverse family environments. Fifth, different types of abilities appear to be malleable at different ages. For example, cognitive abilities are stable after some early age, while many behavioral skills can be quite plastic through adolescence and adulthood. Consequently, a given investment will be more productive if done earlier rather than later in the life cycle, when the absorption capacity is higher. The later the remediation, the less effective it is.

Heckman (2005) suggests finally a strong self-productivity and complementarity of investment in skill formation. The economic returns to the marginal investment at early ages are high, because early investments decrease the cost of later investment or increase the productivity of later investment in skill formation. The economic return to investment at older ages is lower. Complementarity of investments reinforces their self-productivity. Early investment in cognitive and non-cognitive skills lowers the cost of later investment by making learning at later ages more efficient. Complementarity also suggests that early investments should be followed up by later investments to be effective. Likewise, later investments can be effective only if preceded by investment in early periods. Because early investments raise the productivity (lower the costs) of later investments, human capital is synergistic. Heckman summarizes this by saying that “skill begets skill”. Also, learning begets learning: skills (both cognitive and non-cognitive) acquired early facilitate later learning.

Indirect effects of skills. Key mechanisms by which skills influence productivity refer to innovation process, knowledge transfer and absorption of new technologies. The literature on this topic is extensive and predominantly emphasizes the key role of high-level skills rather than intermediate vocational ones. Studying diffusion of information and communications technologies (ICT) in recent decades, the concept
of skill-biased technical change was conceived. It suggests that skilled labor is more complementary to the introduction and/or effective utilization of new technologies than is unskilled labor (Autor et al., 1998). The principal mechanisms implied are that high-skilled workers can contribute better than low-skilled workers to the selection, installation, operation and maintenance of ICTs. Their contribution is higher also in the adaptation of ICTs to firm-specific requirements. However, level of skills required for rapid adoption of ICTs may differ from the skills required for their subsequent utilization. Skill-biased technological change literature suggests also that the contributions of graduates to growth may be evolving over time. As new technology (e.g. ICT) becomes mature and more user-friendly, over time it becomes more complementary to workers with skills at lower levels.

Consequently, it is possible to identify also some channels of influence by which intermediate vocational skills may potentially contribute to productivity growth. Principal channels and/or mechanisms by which intermediate-skilled workers can contribute to productivity are based on efficiency and innovations. First, workers with upper intermediate vocational skills may contribute to a more effective use of ICT and other assets. High-skilled employees such as scientists and engineers contribute crucially to firms’ ability to identify and acquire useful external knowledge, but the successful implementation of this knowledge will depend in many ways on intermediate-skilled workers. Second, vocational skills play also important support roles in absorbing new ideas and in supporting research and development. Incremental enhancements of products, services, processes and work organization rely heavily on workers in direct production, marketing, finance and human resource departments which develop new solutions through learning-by-doing in the working process.

4. EMPIRICAL FINDINGS

The contribution of VET to economic competitiveness has been often underestimated. This is partly because it has not been systematically evidenced and measured. Emphasis in earlier studies was on educational attainments in general, or on particular levels of skills and attainments such as high-level skills or basic literacy and numeracy. Virtually, very few studies analyses how different levels or types of education, contribute to economic growth. Consequently, Cedefop (2014) aims to fill this gap, launching a research to identify macroeconomic benefits of VET. This study is important because it expands existing research in two ways. First, it investigates the differential impact of various skill types on labor productivity. These are the following skills groups: higher, upper-intermediate vocational, lower-intermediate vocational, lower-intermediate general, and low. The division between the higher and upper-intermediate groups corresponds to the separation line between long-cycle and short-cycle higher education. Further, technician-level qualifications are classified in the upper-intermediate vocational group, while craft-level qualifications in the low-
er-intermediate vocational group. Second, study accounts for the stock of uncertified skills, i.e. those built through on-the-job training.

The analysis covered six European countries – Denmark, Germany, France, the Netherlands, Sweden and the UK. For these countries data were available. The choice of countries is determined also by diversity of their VET systems. Some countries have highly developed apprenticeship systems, while others provide VET through full-time vocational schooling. Such choice allows a comparative analysis of macroeconomic benefits of various VET systems.

4.1. SKILLS IMPACT ON ALP – GROWTH ACCOUNTING APPROACH

In Cedefop study, growth accounting technique was used to estimate the impact of vocational and other skills accumulation on labor productivity growth in the six countries. Growth accounting decomposes the sources of ALP growth into those due to changes in physical capital per hour worked, skills accumulation and total factor productivity (TFP). After identifying the contribution to ALP growth from the total rise in wage-weighted skills measure, a decomposition of the aggregate skill measure into the five skill groups was undertaken with the aim to estimate the respective contributions of each skill group to ALP growth.

Skills accumulation made small but positive contribution to ALP growth in all countries from 1981 to 2007. This contribution differs by countries and characteristic subperiods. Over the 1981-2007 period the contribution of growth in aggregate skills to ALP growth was substantially smaller than the contributions made by growth in capital per hour worked (capital deepening) in five of the six countries. The exception was Denmark. In all countries, the contribution made by skills accumulation was also substantially smaller than the contribution made by TFP growth (Cedefop, 2014).

Growth accounting analysis suggests that vocational skills (upper and lower-intermediate) accumulation made positive contributions to growth in average labor productivity (ALP) in five of the six countries between 1981 and 2007. The exception was Germany, and this can be explained by the fact that there, at the beginning of the period, this vocational-skilled group was already comparatively large. In Sweden and the UK – the contributions on ALP growth of intermediate vocational skills were exceeded by the positive contribution made by growth in high-level skills. However, in Denmark, France and the Netherlands the combined contributions of growth in upper and lower-intermediate vocational skills exceeded the high-skills contribution to ALP growth (Cedefop, 2014).

The small contribution of aggregate skills to income growth and productivity is a general result. Timmer et al. (2010) also mention this result in their study based on EU KLEMS databases, also called the EU KLEMS Growth and Productivity Accounts. This database is conceived to support empirical and theoretical research in the area
of economic growth, such as study of the relationship between skill formation, investment, technological progress and innovation, on the one hand, and productivity, on the other. In addition, the database is conceived as a tool to facilitate the conduct of policies aimed at supporting a revival of productivity and competitiveness in the European Union. Timmer et al. (2010) consider that small contribution of aggregate skills to economic performances can be ascribed, to a large degree, to the inability of growth accounting to represent correctly the contributions made by skills to productivity. This technique cannot take account of complementarities between production inputs - such as the role of skills in supporting the effective use of new technologies.

Consequently, in the next proceeding multivariate regression method was needed to assess the impact of vocational skills on average labor productivity levels and on the effective utilization of new technologies. This technique is suitable for analyzing the combined effects of skills and other production inputs. In other words, regression is taken into account as well as indirect skills effects – on other tangible and intangible assets and on other skills types.

4.2. SKILLS IMPACT ON ALP AND ICT USE – REGRESSION ANALYSIS

The impact of different types of education and training on average labor productivity was assessed by Cedefop authors with the help of production functions that relate output (average labor productivity measured GDP per hour worked) to the input needed to produce it: capital (per hour worked, the capital labor ratio) and labor (expressed by composite measure of certified and uncertified skills). In so doing, they relied on some of the mechanisms by which skills can affect productivity, such as through stimulation of innovations and supporting the adoption of new technologies.

**Basic Model.** The results show that the wage-weighted measure of aggregate skills tends to be positively related to productivity. In Germany and Denmark the relationship is positive and statistically significant. In other four countries, large standard errors associated to the coefficient on composite skill measure resulted in lack of statistical significance. Data across countries then were pooled together in one single data set to maximize the sample size. An error correction model (ECM) was used for the upwards trend in the composite skill measure and average labor productivity, which can be modeled as a stable long-term relationship. The coefficient on the error correction term describes what happens when there are deviations from the long-run relationship between labor productivity and skills. The capital-labor ratio and skills (labor input) are found, as expected, to be significantly positively related to labor productivity in the long run. There is also a short-run relationship. When the level of skill (or the capital labor ratio) increases in a given year, an increase in average labor productivity can be expected one year later.
The aggregate measure of skills was further disaggregated in the five skill groups to investigate the differential impact of the various types of skills on ALP. Coefficient of the measure of vocational skills was positive and significant, whereas the impact of higher skills and lower-intermediate general skills was not significant. The Cedefop (2014) results suggest that, in the long term, a one percentage point rise in the vocational-skilled share of employment is associated with a 0.143 percentage point rise in ALP. Further disaggregation of vocational skills between upper and lower-intermediate skills suggests that it is the former that is driving the positive significant relationship with ALP. The lack of a positive significant relationship between high-level skills and relative productivity is surprising, because previous studies have found such a relationship in analyses at country and sector levels. Authors suggest that one possible explanation for the general weak link between skills and productivity might be due to gaps in wage data for most countries. Consequently, the wage-weighted skill measure was not suitable in taking account of changing wage returns for different qualifications over time.

**Complementarity between certified and uncertified skills.** That is why Cedefop researchers turn to second skill measure. It seeks to capture the mix of certified and uncertified skills in each country more directly by taking account of skills acquired through employer-provided training as well as qualification group shares of employment. This skill measure allows examination of interaction between certified and uncertified skills. One can expect that certified skills could be reinforced and augmented by uncertified skills developed through employer-provided training. The effects of combining certified skills with training capital stocks are captured by interaction terms. A positive and significant coefficient on this interacted variable allows to test whether there is a positive relationship between productivity and interaction of different skills types.

Cedefop (2014) results show positive significant effects on the interacted skill/training capital measures at both high-skilled level and at upper-intermediate level. These findings suggest that ALP is positively related to certified skills being reinforced by uncertified skills developed through employers’ investments in on-the-job training. ALP is also enhanced by the greater effectiveness of employer-provided training to workforce with higher certified levels of skills. Cedefop researchers also focused on the relationship between the various types of skills (certified and uncertified) in apprenticeship and school-based VET systems. Distinct positive interaction effect between skills at high-level and training capital occurs primarily in school-based VET countries, likely because in such countries (as France and the UK) employer investments in training are heavily concentrated on the high-skilled workers. In countries with apprenticeship-based VET, positive and significant interactions are between training capital and upper–intermediate vocational skills as well as lower-intermediate general skills. The result for lower-intermediate general skills can be explained
by the relatively high levels of training provided to workers with intermediate-skills in some countries.

The impact of the various skills on ALP differs across sectors. In production sectors, upper–intermediate skills are found to have a positive influence on ALP. Higher skills also have a positive impact on ALP and their effect is reinforced by training capital with high-level skills. Lower-intermediate vocational skills have a positive impact on ALP in service sectors, as do upper-intermediate vocational skills reinforced by training capital (in upper-vocational skill). Cedefop results provide relevant evidence of a positive relationship between upper-intermediate vocational skills and relative ALP especially in the production sectors. This positive relationship is characteristic primarily in countries with VET based on apprenticeship, and the relationship is stronger when vocational skills are broadly defined to include uncertified and certified vocational skills. However, the evidence of positive effects of lower-intermediate vocational skills based on these estimates is only limited. In school-based VET countries (and in the service industries), high-level skills tend to contribute more to relative productivity than vocational skills, primarily because on-the-job training is mostly received by high-skilled workers.

Complementarity between ICT capital and various types of skills. To assess the empirical relevance of the two channels of indirect vocational skills influence on ALP through ICT in Cedefop (2014) study, physical capital was disaggregated into ICT and non-ICT component. These segments were later interacted with skills measures to test whether the impact of ICT on ALP is enhanced when ICT capital and particular skills are used together. Relationships underlying the first channel described in methodological section (vocational skills contribute to more effective use of ICT) are not confirmed in macro-level data from 1980 to 2007. The coefficients on the interaction of the various (wage-weighted) skill measures with ICT investments were not statistically significant. Sectorial data, however, confirmed a positive interaction between ICT capital and various skilled labor input, more precisely, a positive contribution of ICT skills’ impact on ALP.

In all market sectors, across the six countries, Cedefop (2014) researchers found evidence of positive impacts on productivity of ICT use combined with intermediate vocational skills (at upper and lower-intermediate levels) and lower-intermediate general skills. The contributions to the impact of ICT capital on ALP made by intermediate vocational and general skills were greater in countries where apprenticeship training is strong than in school-based VET countries where high-level skills predominate. Intermediate vocational and general skills also contribute positively to the effects of ICT on ALP in service and in ICT-intensive sectors. In production sectors, the effects of ICT use on productivity enhancing were most significant when combined with high-level and upper-intermediate vocational skills. The data provide little support to the second channel of influence (vocational skills play important
support roles in absorbing new ideas and in supporting research and development). Coefficients on R&D spending and on the interaction terms between measures of openness and the various types of skills were statistically insignificant.

4.3. PATTERNS OF COMPLEMENTARITY BETWEEN CERTIFIED SKILLS – ELASTICITY APPROACH

The focus of the next analysis is the evidence relating to complementarities between certified vocational and general skills. In Cedefop (2014) study, complementarity between certified skills was examined with the help of ECM (error correction method) for the period 1980-2007. The long-run elasticity of complementarity between all skill group pairs is calculated, with error correction coefficient for each share equation. Values were always negative and significant, indicating the existence of stable long-run relationships.

First of all, the results indicate a significant difference in mean factor cost shares between countries with apprenticeship and classroom-based VET systems. The Cedefop (2014) estimated long-run elasticity of complementarity suggests a generalized pattern of complementarity between skills in production sectors in countries with strong apprenticeship systems. Complementarity between skills is also observed sometimes in the market services. Intermediate vocational skills tend to be complementary to the use of high-level skills; higher skills are complemented by upper-intermediate vocational skills; lower-intermediate vocational skills are complemented by the use of intermediate general skills as well as low skills; and finally, low skills tend to be complementary to the use of upper-intermediate skills.

In countries where VET systems are classroom-based, generalized patterns of complementarity between certified skills differ. In production sectors in these countries, upper-intermediate vocational skills tend to be substitutes (rather than complements) for higher skills. Lower-intermediate vocational skills and low skills are complementary to the use of upper and lower-intermediate vocational skills. In the sectors providing market services, lower intermediate vocational skills are complementary to the use of both intermediate general skills and low skills. And finally, low skills are complementary to the use of upper-intermediate vocational skills. Generally, upper and lower-intermediate vocational-skilled labor complements (augment the productivity of) low-skilled labor (Cedefop, 2014).
5. IMPLICATIONS FOR PUBLIC POLICY

5.1. GENERAL OUTLINE OF EDUCATIONAL POLICY

Previous findings allow for a reflection of their implications for public policy, primarily a discussion about relationship between general and vocational education and training. And then, about the relation between initial and continual VET. These findings are also useful in formulation of public policies. In fact, empirical results imply specific recommendations for two segments of educational policy.

Since productivity can be augmented only by developing a mix of vocational and general skills at all levels, educational policy should be balanced. It should not be biased in favor of general and higher skills at the expense of vocational and intermediate skills. No one skill type is more effective than the others; each is needed in the generation of higher productivity.

Since certified vocational skills typically contribute to higher productivity when reinforced by uncertified skills developed through job-related training provided by employers, vocational policy should be comprehensive. It should include both initial VET as well as continual VET that take place in firms (on-the-job). Continual training is especially important in countries which lack strong apprenticeship systems, since many skills are best learned – and can only be learned – in workplaces. In full-time schooling, such skills could not be acquired. Therefore, initial VET is a complement – not a substitute – of continual VET.

Initiated reform in Serbia redirects a segment of student population in vocational education from full-time vocational schooling to dual track. Further, initiated reform in Serbia includes only the initial stage of VET system. It is evident that it must be extended to continual on-the-job training.

The focus of discussions on VET in Serbia so far was on the first stage. That is the initial VET, which includes schooling and accompanying training. Next stage is the continual VET that lasts for entire working life. It includes on-the-job training and learning-by-doing. Continual training is also an important determinant of workers’ productivity. Many business lines require specific skills, which cannot be provided by general-purpose education. Likewise, a lot of new technologies and organizations require continuous learning, best provided by workplace training.

Neglecting the intensity of learning, a rough estimate of the significance of initial versus continual learning represents the relationship between periods of their duration. Initial learning lasts for three years (and more), and continual lasts for forty years (and more). Therefore, importance of continual training should not be controversial. In continuation we present the economic theory of on-the-job learning, which de-
scribes continual learning process. It also outlines how to shape this segment of VET institutionally and by public policy.

5.2. ECONOMIC THEORY OF ON-THE-JOB TRAINING

Pigou (1912) was the first who elaborated in economic terms the problem of on-the-job training. He identified that private and social returns on investment in training diverge because some workers quit for other firms, which enjoy returns from investments undertaken by other firms. This is the poaching spillover in vocational education which reduces investments in training at suboptimal levels. This finding was widely accepted by economists until the formalization of human capital theory.

Becker Contribution. Becker (1962) analyzed incentives for human capital investments (particularly in on-the-job training) and re-examined the emergence of positive externalities. Becker has introduced the distinction between general and specific training. General training raises the workers’ marginal product everywhere – when a worker remains in the training firm or quits for another firm. General training is therefore of equal value in all firms. Specific training is different, because it increases the marginal product of workers only in the training firm. Becker’s analysis is based on perfectly competitive labor markets that imply that the market wages equal the marginal products of labor. In such a circumstance, training firm must pay workers the prevailing market wage; otherwise, the worker could quit for another firm to obtain the prevailing market wage, benefitting from acquired general skills. That means, the return from investment in general training is reflected in increased wages and belongs to the workers. Therefore, the worker receiving the full benefits of investments in general training has real incentives to bear the costs of such training. Becker’s conclusion is that firms might provide general training, but workers will effectively pay for it, either directly or indirectly through wage reductions in the training period. Moreover, as all returns belong to the worker, there are no positive spillovers from general training onto other firms. Thus, contrary to Pigou’s conclusion, in perfectly competitive labor markets the level of training is efficient (Becker, 1962).

Because specific skills are of no use to other firms, the competitive market wage remains unaffected, and Becker argues that firms will be able to recover costs of specific training. Thus, all returns from specific training will be appropriated by the training firm through the increased worker productivity. But since this investment is justified only if the worker remains in the firm, in order to prevent workers from quitting the employers must direct a part of the returns from such investments to them. Therefore, investment in specific training does not imply spillover to other firms as all returns are collected by the private parties (Becker, 1962).

Standard human capital theory therefore negates poaching externality – positive spillovers from vocational training. As there is no discrepancy between private and social
returns, investments in training undertaken by market participants will be at optimal level. General training is paid for by the worker, while specific training by both the employer and the worker. Becker allows the possibility of under-investment in general training if workers are exposed to credit constraints and/or are risk averse (Becker, 1962). In this case, however, training subsidies or public training provisions are not economically justified. On the contrary, educational policy should address the problems prevailing in credit and insurance markets that cause training under-supply.

Human capital theory, however, faces serious shortcomings. The most important is its inconsistency with empirical evidence. In contrast to its main proposition, numerous empirical studies confirm the provision and financing of general training by large number of firms. In other worlds, in order to provide general skills to their workers, firms bear substantial training costs; even despite the risk of quits. Acemoglu and Pischke (1998) provide relevant evidence about that.

**Training in Imperfect Labor Markets.** This inconsistency between theory and evidence caused the emergence of new economic theory of on-the-job training. It investigates the economic rationales of general training provided and financed by firms in a more realistic framework, that of imperfect competitive labor markets. Important contributions question primarily the assumption of a perfect labor market for skill work. These studies explain that firms provided and financed general training in the framework of labor market imperfections that generated compressed wage structure. In such circumstances, the market wages are below the marginal product of labor and firms can extract a rent from employing skilled workers. General training increases the marginal product of labor, but wages increase to a lesser degree. In compressed wages structure settings, technologically general skills become de facto firm specific skills. Therefore, for employers the financing of general training, contrary to old economic theory of on-the-job training, becomes acceptable.

In the relevant literature, several mechanisms causing a compressed wage structure have been identified. They refer to production technology, competitive conditions as well as informational and institutional settings.

Technological complementarities can generate a compressed wage structure. This means that capital and labor input may be complementary. Such production technology increases the marginal product of labor. In such circumstances, the value of a worker who completed the training is therefore higher to the training firm than to outside firms (Acemoglu & Pischke, 1998). Complementarities may also arise in the training process when general and firm-specific skills are complements.

Informational asymmetries may be another generator of wage compression. When training is not verifiable to outside firms, Katz and Ziderman (1990) show that workers will be unable to receive a wage reflecting their productivity. Relative to other firms, the firm that has provided the training has an informational advantage re-
garding worker productivity. Consequently, training will be worthwhile, as productivity increases more than wage which has to be paid. Also a training firm may acquire superior knowledge about trained workers innate abilities – cognitive as well as non-cognitive. Other firms do not have the opportunities to assess workers’ abilities, so outside wage offers will be below their productivity (Acemoglu & Pischke, 1998).

Mobility restrictions and personal preferences generate additional labor market frictions, preventing workers to quit instantly for other firms. Job turnover is not affordable to workers, because significant commuting or migration costs. Job search implies also other frictions such as: search costs, uncertainties related to search and matching problems. Because of related costs, workers will abstain from potential job turnovers. Consequently, the employing firms are in a position to set wages, compress their structure and appropriate rents. Investment in general training in such circumstances becomes acceptable.

Finally, labor market institutions – through minimum wages, collective bargaining, dismissal protection and labor unions – also have been identified as generators of wage compression (Acemoglu & Pischke, 1998).

The standard economic theory of training was developed by Becker on the assumption of competitive labor markets. When labor markets are not-competitive, however, labor market institutions affect wage compression and therefore the training incidence. Acemoglu and Pischke (1998) show that more compressed wage structures either induced by a minimum wage or by presence of unions, are likely to increase the provision of general training when firms bear the training cost. When both firms and workers contribute to training investments, however, wage compression may increase or decrease the total supply of training. The sign of this impact is an empirical matter.

Upper elaboration of on-the-job training investment in imperfect labor markets can explain why firms provide and finance some general training; even when workers are mobile and free to quit. But the key question is will investment in on-the-job training be carried out to a socially optimal level? The answer is that relevant models suggest that a positive (poaching) externality is inherent to investment in on-the-job training as well in imperfect labor markets. Labor market frictions prevent workers to react instantly to wage differences. Frictions provide rents to employers and thereby create training incentives. Labor market frictions reduce turnover, but they cannot prevent quits completely. Thus, positive externalities arise because non-training firms benefit from training by employing workers trained elsewhere, paying lower wages than the marginal product of their labor. In economic literature this is well known as poaching spillover/externality. In a setting with externalities, private incentives are insufficient, and training will not be provided to an optimal level (Stevens, 1994). Labor market imperfections, therefore, offer an explanation of firm-financed general vocational training, but also suggest the existence of poaching externality. This differs
from recommendations of conventional human capital theory and therefore requires a reconsideration of appropriate public policy.

**Policy Options.** Usual policy instrument for such interventions are levy-grants schemes that collect training levies from non-training firms in order to subsidize training. Such training levy-grants schemes already exist in several industrialized countries. Economists differ greatly in opinion about this arrangement. Surprisingly, however, systematic economic analyses of this policy instrument are lacking. One of the few is the analysis undertaken by Borneman (2005). A subsidy scheme financed by a non-distortionary tax in Pigovian tradition, in principle, could restore the social optimum. In Bornemann analysis, the training levy scheme, by contrast, is a particular scheme that links grants and levies. His paper reveals that this scheme basically corresponds to a uniform subsidy/grant for training that is financed by a distortionary tax on labor. Borneman (2005) shows that introducing such a levy-grant scheme can entail ambiguous repercussions on general welfare.

Final thought is devoted again to skill equilibrium debate. Experience suggests that high skill route to industrial development is feasible, but achieving it requires commitment in building appropriate institutional conditions and in ensuring that employers demand such skills. However, these conditions must also be managed at the political level because low skill equilibrium continues to be a profitable alternative.

In under-developed countries, such as Serbia, the problem of reaching high skill equilibrium is much more complex. On this occasion, we can only indicate a solution: achieving high-skill, high-quality equilibrium primarily in special industrial and service clusters. It cannot be achieved easily and quickly. Such an undertaking implies long-run restructuring of labor market and collective bargaining process and other institutions and markets in such a way that generate high skills, high quality equilibrium.

**6. CONCLUSIONS**

Comparative analysis of VET systems in Europe suggests that some countries provide VET through full-time schooling while other countries provide VET through dual education based on apprenticeship system. German system of dual VET education with its unique features has always been in the center of academic interest, because it is considered a pillar of this country’s economy competitiveness. The macroeconomic effects of vocational education and training are usually explored estimating impact of different kinds of vocational skills on average labor productivity (ALP). Three methodological issues represent challenges in this research context: quantitative methods, skills measurement (derivation of a composite measure of certified and uncertified skills), and phenomenon of complementarity between skills and oth-
Economics

Er production factors. European empirical evidence suggests that in the framework of growth accounting, impact of aggregated skills accumulation on ALP growth is substantially smaller than the impact of growth in capital per hour worked (capital deepening effect), and smaller than impact of total factor productivity (TFP) growth. In the framework of multivariate regression analysis that captures complementarities between skills and factors, conclusions differ. Impact of aggregate skills is more significant, as well as the impacts of vocational skills.

Empirical results represent recommendations for two segments of educational policy. Since productivity can be enhanced only by developing a mix of vocational and general skills at all levels, educational policy should be balanced. It shouldn’t be biased in favor of general and higher skills at the expense of vocational and intermediate skills. Further, since certified vocational skills typically contribute to higher productivity when reinforced by uncertified skills developed through job-related training provided by employers, vocational policy should be comprehensive. It should include both initial as well as continual VET that take place in firms (on-the-job). Initiated reform redirects a segment of Serbian student population in vocational education from full-time vocational schooling to dual track. Initiated reform in Serbia includes only the initial stage of VET system. It is evident it should be extended to continual on-the-job training.

REFERENCES


EFFICIENCY OF THE REFUND SYSTEM OF NITROGEN OXIDES EMISSIONS CHARGE IN THE KINGDOM OF SWEDEN

Jadranka Đurović-Todorović*, Marina Đorđević**, Miloš Stojanović***

Abstract: The need for a serious approach to environmental issues has led to the increasing use of fiscal instruments in solving these problems. One of the major environmental problems facing Sweden are acid rain. With the aim of solving this problem in the Swedish tax system nitrogen oxides charge was introduced in 1992 with the aim to influence the reduction of NOx emission, which in addition to emissions of sulfur dioxide is the main cause of acid rain. Taxpayers of these charge are large stationary sources which emit this harmful gas in the air. Applying of this parafiscal instrument in combating with the reduction of NOx in Sweden proved to be extremely efficient. Key components of the success of this mechanism are a precision measurement of the emission by appropriate measuring devices and the system of refunds of funds spent for these purposes from the budget of Sweden. Of the total amount of collected revenue through this charge, only about 0.7% is used to cover administrative costs of the Swedish Environmental Protection Agency, under whose jurisdiction is this charge, while the remaining part of collected revenue is used through a refund system. System of refunds is designed in a way that the revenue collected from this charge is returned to taxpayers, so polluters that have lower emissions receive higher amounts than they paid, which encourages all taxpayers of this charge to invest in equipment and technology which less pollute the environment in order to reduce their obligations in the future. The implementation of this system in Sweden has led to the fact that despite the growth of the energy produced in the involved plants for more than 90% in the period from 1992 to 2012, the total level of NOx emissions by a given plants was lower in 2012 compared to 1992. Indicators of nitrogen oxide emissions at the plants covered by this system indicate a high level of success of of this charge, particularly in terms of NOx emissions per unit of energy produced. In order to indicate the effectiveness of such charge in the paper we use a linear trend, by which is calculated that the emission of NOx in kg/MWh in given plants was reduced per annum on average of 2.52% in the period from 1994 to 2013. Also, by trendline extrapolation is found that continuation of implementation of such designed charge by SEPA could lead to the level of emissions in 2020 of 0.134 kg NOx/MWh, which is 53.47 percentage less than the emissions in 1994, when considered included plants.

Keywords: Nitrogen oxides, charge, refund system, Environmental Protection Agency, technology.

JEL: H23, Q53.

Field: Economics
1. INTRODUCTION

In modern conditions, mankind faces a number of problems when it comes to environmental quality. Negative external effects on the natural environment that arise as a result of economic activities, as well as human activities, for many years have not been adequately treated by the creators of environmental and economic policy.

Although the European Union has been advantageous to the rest of the world when it comes to ensuring a quality environment, only after accepting sustainable development as the basic paradigm of economic policy of countries and implementing environmental tax reforms in a large number of countries in the Union, environmental problems have been given an adequate role in development policy. Different types of environmental taxes, which vary from country to country, have been introduced through environmental taxation in the countries of the Union. The types of taxes introduced were greatly affected by the environmental problems that a particular country faces with.

Sweden is a country which in the past had big problems when it comes to NOx emissions. In order to alleviate this problem, Sweden introduced a charge for nitrogen oxide emissions for large combustion plants. With the aim of not placing small energy producers that are not covered by this charge on a privileged position, a refund system was introduced, which has had a huge impact on raising the efficiency of this charge in reducing the NOx emissions. This system has encouraged investment in environmentally sound techniques and technology by covered plants, which has had a huge impact on reducing emission of NOx.

2. THEORETICAL ASPECT OF NITROGEN OXIDES EMISSIONS CHARGE IN SWEDEN

2.1. THE NEGATIVE EFFECTS OF NITROGEN OXIDE EMISSIONS AND THE NEED FOR IMPLEMENTATION OF AN ECONOMIC INSTRUMENTS IN ITS CONTROL

Air pollution resulting from emissions of harmful gases from sources such as traffic, industry and households is still above the internationally agreed borders in most European countries. According to the report from the European Environment Agency (EEA), emissions of nitrogen oxides are a particular problem in a large number of these countries, and it is necessary to take additional measures for its reduction (EEA, 2014: 6).

As the basic consequences which Sweden and other countries have due to emissions of nitrogen oxides may be mentioned the following (Andersen, 2013: 5-7):

- Acid rain;
- Impact on human health;
- Reducing visibility and creating photochemical smog as a result of the NOx reaction with organic matter in the presence of sunlight;
- Depletion of ozone in higher atmospheric layers and
- Creation of harmful ozone in higher atmospheric layers.

Acid rain, which are mainly the result of emissions of nitrogen oxides and sulfur dioxide are especially big problem in Sweden and Norway (Bowen, Pallister, 2006: 207). This is precisely the most important reason why Sweden decided to introduce a charge on nitrogen oxide emissions. In order to ensure the efficiency of nitrogen oxide emission charge, it is extremely important that the objectives of the environmental policy are properly defined and that the pollution level parameters are precisely measured. In all cases, this is not possible, due to the occurrence of difficulties and the large costs of measuring pollution levels. However, in those cases where the costs are at an acceptable level, it is necessary to precisely define the objectives and in the line with actual level of emission determine the burden of pollutants.

Proper defining of ecological objectives and levels of tax burden of polluters is not an easy task. In addition to the Ministry of Finance, in whose jurisdiction is the introduction and administration of environmental taxes, the ministry responsible for the environment should also be involved in this process. This ministry should contribute to defining objectives, determining the level of pollution, and defining the charge according to the level of pollution, and may also be involved in the administration of environmental charges and taxes (Dias Soares, 2011: 121-122).

How precise definition and quantification of ecological targets in taxation is significant, is noted in this paper on the case of Swedish nitrogen oxide emission charge. In Sweden, this charge is designed by the Ministry of Environmental Protection and Energy (Miljö- och energidepartementet), i.e. his department - Environmental Protection Agency (2006). Although NOx charge covers only large stationary sources of emission, the analysis carried out in this paper shows that this charge is really effective in reducing NOx emissions.

2.2. REFUNDING SYSTEM AS A PART OF NOX CHARGE IN SWEDEN

The Swedish Parliament decided in 1985 that it was necessary to reduce nitrogen oxide emissions by about 30% by 1995, so in 1990 the decision to introduce NOx charge was made. This decision came into force in 1992, in the amount of 40 crowns per kilogram of NOx emitted (OECD, 2001). Since 2008, the amount of this charge has been increased to 50 crowns (Bragadottir, et al., 2014). By this charge are covered industrial plants and heating plants, which are considered to be large-scale nitrogen oxide emitters in the air.
As the large producers would not be placed in an unfair position in relation to small producers, the Swedish Environmental Protection Agency (ECHA) overrode a special mechanism for reimbursement of collected funds from this charge (Swedish Environmental Protection Agency, 2006). At the moment when NOx emission charge was introduced, it referred to combustion plants that produced at least 50 gigawatts of energy annually. Later this limit was corrected and now all those plants that produce more than 25 gigawatts of energy per year are taxpayers of this charge (Sterner, Turnheim, 2008: 9). This change of the limit has led to an increase in the number of plants covered by this system.

This charge is paid by plants covered on the basis of annual NOx emissions. The measuring equipment is provided by the taxpayer and must be in accordance with the defined standards, prescribed by the Environmental Protection Agency. In cases where a particular plant, which is covered by the NOx emission charge, does not have adequate measuring equipment, the emission level is calculated based on emission factors which are set high enough in order to focus these plants to take ecologically correct measures (SEPA, 2000).

The NOx fee system is defined in a way that everyone who is covered by it, on the basis of actual emissions, remits an annual fee. However, based on the refund system, they receive money returns in such a way that those who emit a smaller amount of NOx per unit of energy produced receive higher sums than those whose emissions are higher (Braathen, 2012: 8). This means that those plants that produce energy with less NOx emission per unit of energy produced can receive a higher amount of funds than the amount they have to pay as a charge and in this way they are rewarded for their investments in equipment that is environmentally friendly. Those plants which use obsolete technique and technology have higher NOx emissions and pay higher amounts in the form of NOx charge in relation to the amount refunded to them.

Of the total amount of funds collected as NOx emission charge, only about 0.7% of the funds are used to cover administrative costs, which the Environmental Protection Agency has in the process of administering this charge. The remaining amount of money collected is used through a refund system (Larsson, 2015: 7).
Table 1 Revenues from NOx emission charge in Sweden, 2004-2013.

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx charge (in Swedish crowns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004.</td>
<td>597</td>
</tr>
<tr>
<td>2005.</td>
<td>575</td>
</tr>
<tr>
<td>2006.</td>
<td>581</td>
</tr>
<tr>
<td>2007.</td>
<td>544</td>
</tr>
<tr>
<td>2008.</td>
<td>688</td>
</tr>
<tr>
<td>2009.</td>
<td>714</td>
</tr>
<tr>
<td>2010.</td>
<td>817</td>
</tr>
<tr>
<td>2011.</td>
<td>666</td>
</tr>
<tr>
<td>2012.</td>
<td>674</td>
</tr>
<tr>
<td>2013.</td>
<td>658</td>
</tr>
</tbody>
</table>

Source: [21].

Table 1 shows the revenues collected from the NOx emission charge as well as the oscillations in the movement of these revenues that are present due to NOx emission oscillations in the plants covered by this charge. The most noticeable oscillations are visible in the period 2008-2010. The increase in these revenues in 2008 was due to an increase in the prescribed amount of charge from 40 to 50 crowns per kilogram of NOx emissions. As for 2009 and 2010, the increase in these revenues was due to significant growth in energy production.

Figure 1 The process from NOx charge introduction to the reduction of NOx emission

Source: Illustration of the authors
As Figure 1 shows, the defined refund mechanism has an influence on covered plants to invest higher amounts of money into research and the creation of a new technology that emits a smaller amount of nitrogen oxides, as well as in the technology that purifies gases that are emitted in the atmosphere. Among other things, it is of great importance that the companies involved in the production of equipment used in the combustion plants also invest in innovations in accordance with the requirements of their clients. The introduction of this new technology leads to a reduction in emissions in these plants, which ensures that they pay less amounts of charge, compared to the amount they can receive, through the refund system.

In this way, combustion plants have the ability to further increase their investment in new environmentally friendly technology and thus reduce the amount of charge they have to pay, which has an effect on their business, by reducing costs, but on the other hand to behave in line with environmental demands and philanthropic according to the nature and society which surrounds them (Bonilla et al., 2013).

2. THE ECOLOGICAL EFFECT OF NITROGEN OXIDE CHARGE IN SWEDEN

The Swedish Parliament’s decision to reduce nitrogen oxide emissions by 30% by 1995 was achieved in 1998. The main reason why the goal was not reached in the foreseen period were mobile pollution sources, in which the emission level decreased by 13% between 1980 and 1997. When it comes to stationary sources of pollution in the same period, emission was reduced by about 50%, mainly due to the introduction of NOx emission charge (Milock, Sterner, 2004: 125; OECD, 2010).

This charge covers plants that emit about 10% of the total NOx emissions in Sweden (OECD, 2007: 198). The residual nitrogen oxides emitted in the air are the result of mobile sources of pollution (transport sector), as well as those combustion plants and firms that are not covered by NOx emission charge (OECD, 2013).

As already mentioned, when this charge was introduced, plants that produced more than 50 gigawatts of energy annually were included, later in 1996 and 1997 respectively, this limit was changed to 40 and then to 25 gigawatts of energy per year (Höglund- Isaksson, Sterner, 2009), which influenced the increase in the number of entities covered by the system of this charge, as can be seen in Table 2. In 1992, when this charge was introduced, the number of covered plants was 181, that in 2013, 422 plants were covered by this charge.

Although the number of plants covered has been increasing year by year, nitrogen oxide emissions have declined or have been mild, due to the growth of energy produced in combustion plants. The number of plants covered by NOx charge in 2013 was 133% higher than in 1992, while the NOx emissions were reduced by 13.98% in the same period, despite the fact that it included a much larger number of plants.
Table 2 Overview of the number of combustion plants covered by the system of NOx emission charge and emission levels in Sweden, 1992-2013.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of plants</th>
<th>NOx emission in tones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992.</td>
<td>181</td>
<td>15.305</td>
</tr>
<tr>
<td>1993.</td>
<td>189</td>
<td>13.333</td>
</tr>
<tr>
<td>1995.</td>
<td>210</td>
<td>12.517</td>
</tr>
<tr>
<td>1996.</td>
<td>274</td>
<td>16.083</td>
</tr>
<tr>
<td>1997.</td>
<td>371</td>
<td>15.107</td>
</tr>
<tr>
<td>1998.</td>
<td>374</td>
<td>14.617</td>
</tr>
<tr>
<td>1999.</td>
<td>375</td>
<td>14.050</td>
</tr>
<tr>
<td>2000.</td>
<td>363</td>
<td>12.765</td>
</tr>
<tr>
<td>2001.</td>
<td>393</td>
<td>14.160</td>
</tr>
<tr>
<td>2002.</td>
<td>393</td>
<td>14.730</td>
</tr>
<tr>
<td>2003.</td>
<td>414</td>
<td>15.836</td>
</tr>
<tr>
<td>2004.</td>
<td>405</td>
<td>14.930</td>
</tr>
<tr>
<td>2005.</td>
<td>411</td>
<td>14.371</td>
</tr>
<tr>
<td>2006.</td>
<td>427</td>
<td>14.514</td>
</tr>
<tr>
<td>2007.</td>
<td>415</td>
<td>13.590</td>
</tr>
<tr>
<td>2008.</td>
<td>408</td>
<td>13.763</td>
</tr>
<tr>
<td>2009.</td>
<td>427</td>
<td>14.292</td>
</tr>
<tr>
<td>2010.</td>
<td>475</td>
<td>16.337</td>
</tr>
<tr>
<td>2011.</td>
<td>421</td>
<td>13.326</td>
</tr>
<tr>
<td>2012.</td>
<td>430</td>
<td>13.473</td>
</tr>
<tr>
<td>2013.</td>
<td>422</td>
<td>13.165</td>
</tr>
</tbody>
</table>

Source: [21].

Significant deviations in the reduction of NOx emissions are present in 1996, 2009 and 2010. The deviation in 1996 was due to the growth of energy produced in these plants, but also from the aforementioned reason for reducing the annual energy production limit for the plants covered by this charge. Although in 1997, this limit was reduced again, NOx emissions was lower than in 1996, because the production of energy was lower in these plants. In the period from 2009-2010, the growth of NOx emissions in combustion plants is the result of drastic growth in energy production, which can be seen in Figure 2.
What is very important to point out is that after this change was introduced into the Swedish tax system, it did not have an impact on the fall in energy production. It just had the effect that energy in covered combustion plants was produced in accordance with ecologically defined criteria. As already stated in the period from 1992 to 2013, the NOx emission was reduced, and based on Figure 2 it can be seen that in the same period, produced useful energy had a tendency to grow from year to year. So in 2013, the produced energy was more than 90% higher than in 1990 in installations covered by the NOx emission charge scheme.

**Figure 2 Energy production and NOx emissions in installations covered by NOx emission charge in Sweden, 1992-2012**

A clear picture of how much the NOx emission in tons was change annually gives a Figure 3, in which chains indices of NOx emission are shown. As the Figure shows the highest emission growth compared to the previous year was noticed in 1996, due to the aforementioned reasons. Also growth compared to the previous year was noticeable in the period 2001-2003 and 2008-2010, as well as in 2006 and 2012, but in significantly lower percentages compared to the growth that was present in 1996.
When it comes to emission reduction compared to the previous year, it was the highest in 2011, 1993 and 2000.

3. **EMPIRICAL ANALYSIS OF EFFICIENCY OF NITROGEN OXIDE EMISSION CHARGE IN THE KINGDOM OF SWEDEN**

3.1. **LINEAR TREND ANALYSIS OF NOx EMISSION PER MEGAWATT OF ENERGY PRODUCED**

In addition to the aforementioned data, which indicate a high level of efficiency of this charge, data that additionally reinforces this fact are data about nitrogen oxide emission in kilograms per megawatt of energy produced. This data is significant in determining the amount of refund to plants that are covered by NOx emission charge.

Investments in technique and technology, as well as a large number of patents in this field, have had an impact on the emission of a smaller amount of NOx per unit of produced energy from year to year (Sterner, Coria, 2012: 344-346). To determine how much is average annual decreasing of NOx emission in kilograms per unit of energy produced the observed period, the linear trend is used in the paper.
Table 3 NOx emission per unit of produced MWh of energy in covered combustion plants in Sweden, 1994-2013.

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx in kg/MWh (Yt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994.</td>
<td>0.288</td>
</tr>
<tr>
<td>1995.</td>
<td>0.268</td>
</tr>
<tr>
<td>1996.</td>
<td>0.281</td>
</tr>
<tr>
<td>1997.</td>
<td>0.275</td>
</tr>
<tr>
<td>1998.</td>
<td>0.259</td>
</tr>
<tr>
<td>1999.</td>
<td>0.256</td>
</tr>
<tr>
<td>2000.</td>
<td>0.248</td>
</tr>
<tr>
<td>2001.</td>
<td>0.244</td>
</tr>
<tr>
<td>2002.</td>
<td>0.241</td>
</tr>
<tr>
<td>2003.</td>
<td>0.239</td>
</tr>
<tr>
<td>2004.</td>
<td>0.227</td>
</tr>
<tr>
<td>2005.</td>
<td>0.222</td>
</tr>
<tr>
<td>2006.</td>
<td>0.216</td>
</tr>
<tr>
<td>2007.</td>
<td>0.205</td>
</tr>
<tr>
<td>2008.</td>
<td>0.203</td>
</tr>
<tr>
<td>2009.</td>
<td>0.195</td>
</tr>
<tr>
<td>2010.</td>
<td>0.191</td>
</tr>
<tr>
<td>2011.</td>
<td>0.182</td>
</tr>
<tr>
<td>2012.</td>
<td>0.183</td>
</tr>
<tr>
<td>2013.</td>
<td>0.181</td>
</tr>
</tbody>
</table>

Source: [21].

The period for which the analysis is conducted is 1994-2013. In order to determine the function of the linear trend, we proceed from a simple linear function, by which a linear trend can be express (Kumar, Chaudhary, 2009):

\[ y = bx + a \]  

(1)

where:

\( a \) - constant member, that is, the expected value of the dependent variable, when the independent variable is 0;

\( b \) - shows the average change of the dependent variable, when the independent variable changes for the unit;

Independent variable \( x \) - time and
Dependent variable $y$ - indicates the observed phenomenon.

By applying this formula to the data shown in Table 3 for the defined time period, the value of the trend line is calculated, which reads $y = -0.0058x + 0.2855$.

Calculated value of the linear trend shown on the graph is representative, since, as can be seen in Figure 4 the value of the determination coefficient ($R^2$) is 0.9826, which indicates that the observed values have a minimum deviation from the trend line, ie 98.26% of the change in the observed phenomenon is explained by this model.

**Figure 4 NOx emission/ MWh in Sweden, with a view of the trend line, 1994-2013.**

![Graph showing NOx emission per MWh in Sweden, with a trend line equation and determination coefficient.](image)

On the given Figure 4, it can be seen that $x = 0$ in 1994, that the unit for one year is $x$, and the unit for emitted quantity of NOx *in kg / MWh* is $y$. Based on the linear function obtained, it can be seen that the parameter value $a$ is 0.2855. So if we take into account that $x = 0$ in 1994, then for the first observed year we get $y = a$. By comparison, it can be seen that the value obtained is almost identical to the actual emission value in 1994, which amounts 0.288 kilograms of NOx / MWh, which additionally indicates the representativity of the obtained function and trend line. Based on the value of parameter $b$, it can be determined how much nitrogen oxide emissions per megawatt of energy produced decreased in the observed period. In the defined linear regression model equation, the value of parameter $b$ is -0.0058, which indicates that the amount of emitted NOx kg / MWh was reduced annually for the indicated value of parameter $b$. By applying the form for the average annual rate of change in the value of the observed phenomenon, it can be determined how much annually, in percent, the emission of NOx in kilograms per MWh of energy produced decreased. The form on which the average annual rate of change is determined is (Kumar, Chaudhary, 2009):
\[ S_p = \frac{b}{\bar{Y}t} \times 100 \]  \hfill (2)

Where:

- \( S_p \) - average annual rate of change of the observed phenomenon
- \( \bar{Y}t \) - the average value of the parameter \( Yt \)

By using this form, it is estimated that the annual emissions of nitrogen oxides in kilograms per MWh of energy produced decreased by 2.52%.

### 3.2. LINEAR TREND PROJECTION OF NOX EMISSION IN PLANTS COVERED BY NOX CHARGE

The determined linear trend function in the previous part of the work for the period from 1994 to 2013 gives the possibility of forecasting the emission trend for the future period. Starting from the obtained results of the linear trend and the fact that \( x = 0 \) in the first observed year, by using the following formula we forecast annually NOx emissions per unit of energy produced until 2020 (Berenson et. al., 2013: 511):

\[
\begin{align*}
Y_{2016} &= aX_{2016} + b \\
Y_{2017} &= aX_{2017} + b \\
* & * * * * \\
Y_{2020} &= aX_{2020} + b
\end{align*}
\]

\[
\begin{align*}
Y_{2016} &= a*22 + b \\
Y_{2017} &= a*23 + b \\
* & * * * * \\
Y_{2020} &= a*26 + b
\end{align*}
\]  \hfill (3)

The results of the application of the defined model are shown in Figure no. 5, where the numerical values of NOx emissions per unit of megawatt of energy produced are also presented.
As can be seen from Figure 5, if the trend that was present in the period from 1994 to 2013 continues, the emission would be 0.134 NOx / MWh in 2020. If we compare the forecast value with the value of emissions in 1994, as the first observation year in the analysis, it can be estimated that the emissions in 2020 should be 53.47% lower.

The obtained results of the performed analysis further support the fact of a high level of efficiency of this charge and refund system, which, through the support of research and development of new technologies in the combustion plants covered by this charge, positively influences the reduction of the level of harmful gas emissions.

4. CONCLUSION

The NOx emission charge in Sweden has proven to be an extremely effective instrument in combating with the emission of this harmful gas in large combustion plants, where due to combustion at high temperatures its emissions emerge. From the moment of its introduction, appropriate changes were made in terms of changing the rate and reducing the limit of energy produced for combustion plants to enter the system of this charge, which had additional impetus for a further reduction in nitrogen oxide emission. The high level of performance of this charge is, however, the result of a precise measurement of NOx gas emissions in the plants covered, as well as the system of refunding. The essence of this system is to reward those who reduce the level of emissions by investing in ecologically acceptable technique and technology, and to punish those who do not make it with a larger tax burden than the amount of refunds through the refund system. The application of this system has had an impact
on the decline in nitrogen oxide emissions although the produced energy in these plants had a growth trend. Particularly important indicator of the efficiency of this fee is the NOx emission per MWh of energy produced, which in the period 1994-2013 decreased on average by 2.55% annually. If the emission reduction trend continues in the future, emissions in these plants would be 0.134 NOx / MWh in 2020, which is 53.47% less than in 1994. This good practice of Sweden should be used by other countries that have similar ecological problems in order to solve these problems.

REFERENCES


http://www2.oecd.org, date of access: 21.03.2016.
ANALYSIS OF THE PUBLIC-PRIVATE PARTNERSHIP MARKET IN THE WESTERN BALKAN REGION: LESSONS LEARNED AND PERSPECTIVES

Slađana Sredojević*

Abstract Due to the significant contributions of the Public-Private Partnership (PPP) concept in infrastructure development worldwide, it is evident that this concept may play a relevant role in introduction of a new systematic solution for infrastructure provision at the national level, also in the countries of the Western Balkan region (Albania, Bosnia and Herzegovina, Croatia, FYRO Macedonia, Montenegro, Serbia, including Kosovo**). The chapter analysis has three levels: a) understanding PPP through legal and institutional settings as main PPP enabling environment factors; b) empirical analysis of the structure and capacities of the PPP market in the region through existing projects as well as planned PPP projects; c) an insight into the project level in order to identify some determinants of good PPP performance and some practical considerations that rise up during the process of PPP preparation and implementation.

There are two main contributions from this study: 1) to disclose main regional trends, challenges and perspectives in terms of PPP, and 2) to identify some factors and practical recommendations aimed at supporting more successful PPP implementation predominantly on the level of the project, such as relevance of good preparation of the PPP project proposal and private partner selection process (public procurement).

Key words: Public Sector, Infrastructure Financing, Public-Private Partnership, PPP Market, the Western Balkans, Infrastructure Provisioning, PPPs, Enabling Environment, Implementation, Institutional Settings.

JEL: F42, H54, H83, N70, O18, O21, O57.
Field: Economics/Economic Policy

1. PPP AND BASIC PREREQUISITES FOR ITS SUCCESSFUL IMPLEMENTATION – LITERATURE OVERVIEW

Cooperation between public and private sector is traced back as far as almost the earliest origins of engineering and accomplishment of the objects of common interest. Although the cooperation has been long, the PPP in a modern sense has rather particular meaning and its own terms and conditions. The PPP acronym itself became popular in the early eighties, and gained a significant keyword status in the nineties


** This designation is without prejudice to positions on status, and is in line with UN Security Council Resolution 1244/99 and the ICJ Opinion on the Kosovo declaration of independence. In this paper, each time when Kosovo* is mentioned, here described designation will be applied.
with the rise of the importance of the program known as Public Finance Initiative in the UK for social and economic environment renewal under surveillance of the public expenditures (Bovaird, 2010, p. 17). Although various modalities of the PPP practices have been developed and spread worldwide, there were many successful attempts in defining PPP, but no single definition has been set forth. For the purpose of this research, the paper will rely on the determinants of PPP projects given by the European Commission in the Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions: “The term refers to forms of cooperation between public authorities and the world of business which aim to ensure the funding, construction, renovation, management or maintenance of an infrastructure or the provision of a service” (European Commission, 2004).

Demand for infrastructure development continues to expand progressively in the time ahead, determined by major triggers such as global economic growth, climate change, urbanization, technological progress. Still, challenges abound: many parts of infrastructure systems in OECD countries are inevitably becoming obsolete over time, public finances are becoming increasingly tight and infrastructure financing is becoming more complex. In 2006, the OECD assessed that around 3.5% of global GDP (around USD 2tn) needs to be invested in electricity distribution, road and rail transportation, telecommunications, and water infrastructure annually (around USD 53tn) in the 2010 – 2030 period (OECD, 2007). The need for infrastructure development is therefore the mid-term and long-term perspective of both developed and developing countries. However, while developed countries worldwide are often the subject of this kind of analysis, such as OECD assessment, many countries are not regularly and easily under the focus of such comprehensive and important studies. That is the case with the countries of the Western Balkan region that are sometimes the subject of studies and researches conducted for heterogeneous group of countries (The Economist Intelligence Unit, 2017), or at the margin of the studies on the Central and Eastern Europe experience (Brenck et al., 2005), while rarely as the core subject of relevant international research or policy level approach (EIB, 2014).

Besides, the policy level of EU development includes further need for infrastructure progress, particularly in transport sector. Agenda “Europe 2020” defined three priorities, five goals and seven initiatives for the next decade focused on long-term growth of the Union’s competitiveness. Priorities are the following: a) smart growth as development of an economy based on knowledge and innovation; b) sustainable growth as promotion of a more resource efficient, greener and more competitive economy; and c) inclusive growth as fostering of a high employment economy delivering economic, social and territorial cohesion (Djurović & Milović, 2013, p. 696). Sustainable growth (b) is based on climate, energy and mobility with the aim, among other issues, of modernizing EU transport sector and promoting energy efficiency.
It is obvious that the development and, particularly, infrastructure needs are extremely high both on a national and global scale and official agendas and their realization is supported by the various national, EU or global development policies. However, many factors, players and stakeholders are shaping the local PPP market as a place where the PPP concept is invited to support realization of national or local needs to cover infrastructure gaps. According to Hainz and Kleimeier (2012), the way PPPs are implemented, including conditions of their financing (terms of the loan contract), depends not only on the political risk but also on the legal and institutional environment as well. Although legislation is necessary, national level framework as environment where the PPPs are implemented is a crucial precondition for their launching, fostering and implementation. The results of the 2012 EECIS Infrascope study done by The Economist Intelligence Unit (2017), also shows that “creating an operational and effective PPP system requires more than just passing the necessary laws and making regulatory changes”. According to some authors, the following three factors – legitimacy, credibility and efficiency are identified as necessary for maintenance of PPP in infrastructure financing (Berg et al., 2002). Beside these factors, there is a list of direct and indirect relevant stakeholders around each PPP. Here, it is important to stress that strong private sector, particularly banks, play significant role not only in the traditional approach in PPP implementation (i.e. when project sponsors take the main responsibility for the whole PPP, Special Purpose Vehicles (SPVs) and project cycle functioning), but also in the financier-led approach, i.e. when specialized investment banks take leading and proactive role in the whole process (Sredojević, 2010). Eventually, numerous important prerequisites determine the features of the PPP market which, based on the state of public and private sector, can represent advantages and disadvantages for the PPP concept implementation, such as public sector capacity, political environment, market conditions and macroeconomic stability, institutional framework quality and legal system, experience with PPP project implementation until now, participation of private sector in PPP projects (Hammami, Ruhashyankiko & Etienne, 2006). Some international studies have identified factors such as: good governance (Klijn & Teisman, 2000; Bult-Spiering & Dewulf, 2006), allocation of risk (Li et al., 2005a), project finance (Yescombe, 2007), socio-economic justification (Akintoye et al., 2003). Moreover, some authors identified the phenomenon of critical success factors for PPP implementation (Li et al., 2005b; Zhang, 2005), as well as the need for tailor-made approach for the enhancement of public interest (Jooste et al., 2011; Hellowell & Pollock, 2010).

All abovementioned factors are the prerequisites. However, experience shows that many countries are not able to secure the process prerequisites in these areas. Growing markets in the Western Balkan countries also require a meticulous approach in the initial phase of their experience with PPPs. This paper will try to contribute to the abovementioned findings by focusing its analysis on the region of the Western Balkans, as the region that is not that frequently present as the subject of the interna-
ional research in PPP. Also, the paper will try to give a contribution by conducting the analysis of the factors that influence the process of PPP implementation in this region, with focus on opportunities and threats lying particularly in certain phases, such as PPP project preparation.

2. ANALYSIS OF THE PPP MARKET IN THE WESTERN BALKAN REGION

Due to the interdisciplinary subject of the analysis, various scientific methods are used in the research: induction, analysis, method of generalization, case study and interviews. Analysis of the PPP market in the region is carried out as a Desk Review, using also the review of library and online literature, databases, reports, documentation and interviews.

2.1. GENERAL LEGAL AND INSTITUTIONAL PPP FRAMEWORK IN THE WESTERN BALKANS

Although not having achieved yet the standard of income of developed market economies, these countries have very solid level of income per capita necessary to enable their local business environments. Although they are not full EU member countries, the closer they are to the EU on their path, the better dynamics and quality of PPPs on the ground will be. All countries in the region achieved very solid level of financial market development, with rather strong presence of commercial banks. Presence of international financial institutions (IFI) in those financial arrangements is very important.

First level of the analysis is focused on understanding PPP in the Western Balkans as developing and emerging region with countries shifting to a market-based economy (from an earlier centrally planned system), and this understanding can be considered as rather complex. From the perspective of an existing legal framework that is explicitly stipulating PPP phenomenon, it is coherent with global practice. All countries do have explicit PPP and/or concession laws which indicate that the main precondition – adequate PPP legal framework – is in place. From the institutional point of view, measured by existence of the PPP task force (unit, agency, Commission) and its main roles and competences – the region is partially globally convergent. On the one hand, in some countries these units are organized as a full-time activity with professional civil servants that are on a daily basis in charge of supporting PPP implementation, and where the unit is positioned at a quite significant level in the public administration (e.g. Albania, Croatia). On the other hand, as Table 1 below represents, there are PPP units that have a character of rather ad hoc commissions that are not active on a continuous, daily basis (e.g. Serbia).

However, from the perspective of some other factors, local PPP is a rather divergent phenomenon: proactive and systematic approach is rather lacking in the overall economic development. Analysis of the legal and institutional settings in the region
leads to the conclusion that successful PPP projects implemented in the region are rather a result of an ad hoc initiative (e.g. Serbia, FYROM) and IFIs involvement (e.g. Albania) with only some exceptions of the systematic, policy and proactive approach (e.g. Croatia).

Table 1: Selected determinants of the PPP enabling environment

| Country                  | PPP Legal Framework                                | Quality of Regulatory Process/ PPP Legislation | Existence of PPP Task Force                                                                 | No. of staff | Year of Est.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>Law on Concessions (2010)</td>
<td>High compliance</td>
<td>Concession Treatment Unit (ATRAKO) under the Ministry of Economy, Trade and Energy + Public Procurement Agency</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td></td>
<td>Medium compliance</td>
<td>Various levels - four Commissions for Concessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republika Srpska</td>
<td>Law on PPPs (2009), Law on Concessions (2013)</td>
<td></td>
<td>Department within the Ministry of Finance</td>
<td>4</td>
<td>2009</td>
</tr>
<tr>
<td>FYROM</td>
<td>Law on Concessions and other PPP forms (2012)</td>
<td>High compliance</td>
<td>Department within the Ministry of Economy</td>
<td>2</td>
<td>2009</td>
</tr>
<tr>
<td>Montenegro</td>
<td>Law on Concessions (2009)</td>
<td>High compliance</td>
<td>Commission for Concessions</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Kosovo*</td>
<td>Law on PPP (2011)</td>
<td></td>
<td>Central PPP Department</td>
<td>7</td>
<td>2008</td>
</tr>
</tbody>
</table>


The findings indicate that all countries of the region do have a legal framework in the form of a specific law for PPP and/or law on concessions. Also, all countries are
recording some form of PPP task force or Concession Task Force with clear tasks and responsibilities in PPP/concession field. The competences given to these PPP/Concession Units are similar: ranging from the expert assistance to public bodies in their preparation of the PPP project proposal, through dispute resolution to giving the approval (green light) to the PPP project proposals. Therefore, in legal and institutional terms, countries of the Western Balkans do have a solid base for playing the role of fostering PPPs, for coordination with all stakeholders in PPPs, particularly in its activities on sharing the knowledge and good practice.

2.2. ANALYSIS OF THE STRUCTURE OF THE PPP MARKET

Second level of the analysis is empirical analysis of the structure of the PPP market itself and of the implementation of PPPs in the region through projects that have reached financial closure as well as planned PPP projects. Structures of sectors, of countries and of the whole region should identify the current trends and capacities, as well as the possible developments and perspectives for the region in terms of PPP.

2.2.1. PPP PROJECTS THAT ALREADY REACHED THE PHASE OF COMPLETE FINANCIAL CLOSURE

The analysis of the infrastructure PPP projects which have already reached the phase of complete financial close by individual countries and sectors is conducted on a sample taken from the EIB project database including projects from 1990 to 2016 and up-to-date, according to the available data (EIB, 2014). Table 2 illustrates that there were 37 PPP projects in the Western Balkan region that have reached the phase of complete financial closure from 1990 to 2016.
Table 2: List of the PPP projects in the Western Balkans that reached financial close

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Project closed 1998-2014</th>
<th>Financial Closure Year</th>
<th>Sector</th>
<th>Value (EUR mill)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Albania</td>
<td>Mother Theresa airport terminal (Tirana)</td>
<td>2005</td>
<td>Transport</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Croatia</td>
<td>Istrian motorway phase 1a</td>
<td>1998</td>
<td>Transport</td>
<td>199</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Croatia</td>
<td>Zagreb sewerage plant</td>
<td>2001</td>
<td>Environment</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Croatia</td>
<td>Istrian motorway phase 1b</td>
<td>2003</td>
<td>Transport</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Croatia</td>
<td>Koprivnica high school and sports shll</td>
<td>2006</td>
<td>Education</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Croatia</td>
<td>Reconstruction of the city hall Varazdin</td>
<td>2006</td>
<td>Government Buildings</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - II express of interest - group 4</td>
<td>2006</td>
<td>Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - II express of interest - group 5</td>
<td>2007</td>
<td>Education</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Croatia</td>
<td>Zagreb to Macelj toll motorway</td>
<td>2007</td>
<td>Transport</td>
<td>371</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Croatia</td>
<td>Central bus station Osijek</td>
<td>2007</td>
<td>Transport</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Croatia</td>
<td>Varazdin city sports hall</td>
<td>2007</td>
<td>Social&amp;Community</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Croatia</td>
<td>Split city sport and business complex</td>
<td>2007</td>
<td>Social&amp;Community</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - I express of interest - group 1</td>
<td>2007</td>
<td>Education</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - I express of interest - group 2</td>
<td>2007</td>
<td>Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - I express of interest - group 3&amp;4</td>
<td>2013</td>
<td>Education</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - II express of interest - group 1&amp;2</td>
<td>2014</td>
<td>Education</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - II express of interest - group 3</td>
<td>2014</td>
<td>Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Croatia</td>
<td>Extension of schools in Varazdin county - III express of interest - group 1</td>
<td>2014</td>
<td>Education</td>
<td>4</td>
<td></td>
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<td>Transport</td>
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<td></td>
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Analysis of the PPP projects that already reached the phase of complete financial closure is twofold: by country and by sector.

Table 2 shows that the Western Balkan countries have different numbers of PPP projects that have reached the phase of complete financial close. The country that is most advanced in this regard is Croatia with 19 projects, followed by FYROM (9), Montenegro (5), Kosovo* (2), Serbia (1) and Albania (1). During the observed period, Bosnia and Herzegovina did not close any PPP projects, according to the available data. The analysis of the PPPs in the Balkans that have reached the phase of financial close by individual sectors is generated in the Graph 1.

**Graph 1: PPPs in the Balkans that have reached the phase of financial close by individual sectors**

Out of total of 37 PPP projects in all sectors, most of them are present in the transport sector (11), education sector (9) and social & community projects (8), with four Government Building projects, two environmental and telecommunication projects, and one project in the energy field. This kind of disposition between the sectors, characterized by the domination of the transport sector, is typical for all countries that are implementing the PPP concept, especially during the initial phases of its implementation; the transport infrastructure is traditionally the sector which generates the majority of PPP projects in any country in the world. The experience shows that nearly all countries (developed or undeveloped), at the beginning of the PPP concept application, whether as a systemic or an ad hoc infrastructure financing method, emphasize the transportation infrastructure sector projects. This means that after gaining experience with the so called economic infrastructure projects, social infrastructure projects usually follow. From this point of view, structure and distribution of
PPP projects in the Western Balkan region is typical and similar to structures present in other regions and countries. Important aspect of the PPP projects in this region is relatively strong presence of the IFIs (IFC, EBRD, partially EIB) as a relevant partner with know-how and expertise, but also with a role of a catalyser and reputation gain. Their presence is very useful in the early stages of the PPP implementation in the country (Yescombe, 2000).

2.2.2. ANALYSIS OF THE PPP PROJECTS IN THE PIPELINE

Analysis of the PPP projects that are in a pipeline is twofold: by country and by sector. According to the list of planned infrastructure projects in the Western Balkan region, there are 67 projects in the Western Balkan countries that are in a pipeline to be implemented through PPP model (EIB, 2014).

There is an evident increase in the number of planned PPP projects (67) compared to the number of PPP projects that have reached financial close (37). Therefore, it is evident that there is an ascending trend in the Western Balkan region that indicates the readiness of governments and the growing number of initiatives by the international financial institutions and investors to realize PPP projects that utilize various public-private partnership business models (concessions, BOO, BOT, DBO, BOOT, PFI).

Regarding the analysis of PPP projects in individual countries, the country with the highest increase of planned PPP projects is Serbia (21 projects), Croatia and Kosovo* (12 projects), Albania (7), FYROM and B&H (6 each), Montenegro (3). It is notable that the interest and readiness for PPP have increased in all countries of the region, indicated by the public sectors’ intention to manage a higher number of planned PPP projects compared to the number of PPP projects that have reached the complete financial close phase. However, among these countries, it is only Croatia that has already successfully closed 19 PPP projects defined by the research parameters, which may lead us to the conclusion that this country based its PPP plans on its initial experience, lessons learned through evaluation, an solid institutional, organizational and coordination capacity.
Table 3: List of planned PPP projects in the Western Balkans

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Project</th>
<th>Status</th>
<th>Sector</th>
<th>mlli</th>
<th>Total</th>
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<td>Energy</td>
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<td>7</td>
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<td>Energy</td>
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<td>3</td>
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<td>In tender</td>
<td>Energy</td>
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<td>In tender</td>
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</tr>
<tr>
<td>5</td>
<td>Albania</td>
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<td>In tender</td>
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<td>7</td>
<td>Bosnia and Herzegovina</td>
<td>Bosnia solid waste management PPP</td>
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<td>8</td>
<td>Bosnia and Herzegovina</td>
<td>Banja Luka - Doboj motorway PPP</td>
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<td>9</td>
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<td>12</td>
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<td>Croatia</td>
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<td>Government Buildings</td>
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</tbody>
</table>

The analysis of planned PPPs in the Western Balkans by individual sector is illustrated in Graph 2 which shows that the projects are distributed among all infrastructure sectors, in both economic and social infrastructure.

**Graph 2: Distribution of PPP projects in the pipeline by sector**

Transport infrastructure sector prevails as a dominant sector also in the category of PPP projects that are in the pipeline. With 30 projects in preparation phase, transportation infrastructure sector represents the majority of the total number of planned projects. Compared to sector distribution of PPP projects that have reached the complete financial close phase, sector distribution of planned PPP projects as presented in Graph 1 above shows an increase, not only in traditionally active economic infrastructure sectors – energy (12), environment (8), but also in social infrastructure sectors – health (3), education (5), social projects (5). This indicates that we can expect equally present both hard social and economic infrastructure projects in this region in the near future.

The capacity and experience of the public sector in the Western Balkan countries has obviously reached a level at which it is capable of adequately contracting and supervising not only economic but also social infrastructure projects through the PPP concept implementation. Considering that there are only hard forms of both economic and social infrastructure projects currently present, there is no information that could indicate whether or when their soft forms, financed through the PPP concept utilization, will appear.
2.3. ANALYSIS OF SOME PRACTICAL CONSIDERATIONS AT THE PPP PROJECT LEVEL

The third level of the analysis of the PPP market in the Western Balkan region refers to some practical consideration at the project level. Methodology used is desk research and field research; data are collected through a series of regional workshops and conferences realized over the last five years. Some practical considerations from the project level show that there is still a high percentage of failure or mortality of the projects (EIB, 2014). Most of the open issues are present in the phase of the PPP project preparation and particularly in the phase of the procurement of the private partner (tender). More particularly, issues like local currency role (EUR not in circulation, except in Montenegro) in the long-term contracts such as PPPs and/or public contracts, choice of the tender (procurement) procedure, management skills and capacities are still to be enhanced. In the context in which favourable tax policies, PPP policy and more systematic approach are rather lacking, the impact of those issues on the project level becomes even more significant.

The fact that the process of public procurement, based on public procurement legislation, is in practice in all countries of the Western Balkan region represents a great advantage – formal roles and the process are already known, and countries gained experience and lessons learned. Although a very restrictive process for public procurement process is in place, usually it does not result in higher level of discipline, but instead has a very negative effect on the PPP concept implementation (Grimsey & Lewis, 2004). At the same time, there are issues in the private partner selection process that still do represent the challenges and/or weaknesses in the Western Balkan region:

- Dilemma on the procedure and/or selection criteria of procurement
- Dilemma on currency used in the project – potential partner is eager to be protected against major macroeconomic risks (currency, inflation, commodity prices)
- Data are sometimes obsolete, specially market and demand projections
- Public partner perception during tender - potential partner intentions, including when questions are posed during the tender by the bidder
- Understanding of risks, their identification and proper allocation
- Bankability of the project not checked initially
- Lack of understanding on the main logic behind Project Finance and Debt Financing in PPP, hence cash-flow, IRR or BCR of the project (bankability).

At the same time, it is inevitable to address some practical recommendations aimed at supporting further better PPP implementation predominantly on the level of the project. The main possibilities are in the process of preparation of: 1) PPP project proposal and 2) private partner selection. So, very thorough, objective, fair and balanced preparation of these two phases is critical for the successful PPP implementation.
Experiences in countries with extensive PPP experience show that the PPP concept brings potential added value which can be utilized depending on the government’s approach; PPP concept can make an adequate value for money ratio possible and provide many other benefits and goals for public sector and the population, but it also must be taken into account that this process is much more complicated than the traditional procurement process and requires active participation, accountability and contribution of all parties involved and primarily – public sector representatives. Having in mind that historic and economic development of the Western Balkan countries shows that the role of the state and public finances in infrastructure design, building, financing and management has been very dominant for decades, the following aspects are very relevant in the whole region:

a) The role of strong and accountable public administration with a capacity to negotiate and manage individual projects and contracts and, if necessary, employ relevant external expertise from the financial, technical and legal area. In that respect, it is also necessary to maintain public administration’s organizational capacity, accumulate and distribute experiences with other entities for the reason of creation of more efficient methods, procedures and individual projects which are best suited for the needs of the public sector, local environment and public.

b) At the local level, preparation phase of the PPP project is the most relevant. Public body is requested to formulize, explain, justify and foresee all relevant elements of the project as well as all determinants of the nature of the future relationship with the private partner. Only in this way, if the public body prepares the process of private partner procurement ex-ante, all relevant responsibilities of the public body are well rooted: the risk management is in place, organizational capacity and eventually monitoring function over the project and the contract. Therefore, the normative framework for PPP implementation should recognize the role of the local administrations not only as a stakeholder but also the facilitator of PPP implementation (Jovanić & Sredojević, 2016, p. 245).

3. LESSONS LEARNED

In previous sections, the analysis of the PPP projects in the Western Balkan countries covered the basis of the PPP framework, allocation of closed and planned projects between sectors and countries, tendencies regarding the emphasis on economic or social and hard or soft infrastructure. The results of the analysis of the following overall trends:

- The majority of the Western Balkan region countries are active in the PPP concept implementation.
- The majority of PPP projects are in the transport sector.
• PPP project distribution is completely in accord with a typical sector distribution in any region or country that is implementing the PPP concept.
• All Western Balkan countries are actively preparing for new PPP projects, and numerous are in the pipeline.
• Number of planned projects is higher than the number of projects that have reached the complete financial close phase.

Analysing the determinants of the PPP market in the Western Balkan region, we can understand that all Western Balkan countries have acquired the basis of the PPP framework due to the existence of PPP legal framework and institutional settings. Furthermore, by analysing the structure of the market, we conclude that in these countries financial structure for PPP projects can be completed, new PPP projects are being planned, and also that the implementation of projects is adequately supported by the existing public-sector policies, and supportive role of the IFIs. This group includes countries that have considerable experience with PPPs, such as Croatia, and those that are beginning to build up their PPP-related institutions and regulations (Bosnia and Herzegovina). That is in accordance with the recent study Infrascope 2017 about evaluation of the environment for PPP in 13 countries of Eastern Europe, Central Asia and South and Eastern Mediterranean, which findings demonstrate that the majority of the countries in the study are utilising PPPs to deliver investments in transport, water and energy, and solid waste management, that there is some appetite to explore PPP models in health and education facilities management, that there is a strong political support across most nations for the PPP model in principle, and that there has been significant recent PPP legislation in several countries (The Economist Intelligence Unit, 2017, p. 6).

Success is not determined only and automatically by the PPP concept itself. Just like any other project, the PPP projects must meet numerous criteria, public goals and procedures starting with a qualitative and justified project proposal, as well as all features such as project goals, contract conditions, description of activities, contract monitoring, performance review, risk management, accounting and tax treatment, financing, development policy and public opinion interest. The only successful PPP project is the one which manages not only to resolve, but to identify in advance all these and other relevant segments as well as their mutual co-dependencies. Eventually, the Western Balkans as a region of countries that are showing high interest in PPP project implementation should perform an evaluation process both of their own PPP projects being implemented, and review of experiences and procedures in countries with more extensive knowledge and experiences. This should be done not with an intention to copy an already evidenced approach, but to maximize the utilization of all successes and failures that have already occurred in other sectors or countries, and to make a tailor-made approach adaptable to the local conditions and project features. This should reduce the risk of failure of PPP projects, which is still considerable.
4. CONCLUSION - PERSPECTIVES FOR FURTHER PPP IMPLEMENTATION IN THE WESTERN BALKAN REGION

Since all these countries are now in transition towards a market economy with integration into the European Union as a strategic goal (beside Croatia that is already an EU Member), we may expect as general perspective that the private sector will foster and become the engine of the economy. Consequently, there are indications that, in the future, the capacity and the role of private sector will grow, financial markets will increase in terms of various instruments and liquidity, which will support implementation of PPPs as a systemic option.

However, since the PPP concept is neither a panacea nor any kind of solution per se, it is very important for all Western Balkan countries and their policy makers to objectively clarify what PPP is, what PPP could potentially bring to a specific project to improve the existing situation and under which conditions this value added can be brought. Therefore, it would be necessary to continue to foster the prerequisites for PPP implementation by providing a series of stimulating factors:

1) **Institutional settings - the role of PPP Units.** Although being formed and well organized in all countries of the Western Balkans, government agencies and public-sector institutions like PPP Units must actively support the involvement and capacities of public sector at the local level in order to make it capable of dealing with the private sector regarding the infrastructure and public services projects and PPP procedures.

2) **Financial literacy and education on PPP and procurement issues.** The obstacles are present in the insufficient education segment, especially in development and control of the project financing process, as well as in the lack of relevant information and prediction models for traffic, purchasing power and other demand determinants. The capacity and skills of public administration are for the most part very limited in regard to negotiating and managing the process of contracting the private sector. A useful approach would be existence of specific public-sector departments (PPP task force) on the local level which would synthesize the experiences of other countries and distribute them through regional interconnections, strengthening the capacity of their administration.

3) **The role of local financial markets.** Presence of variety of financial institutions, such as commercial and investment banks, pension funds, insurance companies, credit rating agencies, audit companies and investment funds, creates very favourable environment for PPP implementation. All countries in the region achieved a very solid level of financial market development, with rather strong presence of commercial banks of universal type. However, there is still a lack of mature and liquid debt markets in the Western Balkan region, as well as the lack of more sophisticated and longer-term financial instruments. Despite the existing liquidity in the region, the perception of high risk in project financing is high in
the Western Balkan region: country’s credit risk has a significance because private commercial banks are reluctant to enter markets with inadequate legal and regulatory framework, typical for all growing markets, or volatile financial, political and macroeconomic indicators (Sredojević & Dugalić, 2014). Considering that market risks have a considerable influence on the potential outcome of most projects, project financing is often applied in sectors in which income is definable.

4) Further improvement of fiscal and accounting treatment of PPP. A complicated problem which always creates a dilemma – in whose balance sheet should the property, regulated in a PPP contract, be registered is always based on the following: recording project property in balance sheets at the same time means assuming obligations over them in the accounts. That is why there is a necessity in all countries of the Western Balkan region for a proper economic analysis of every single case, for determining the relevant party which should record obligations derived from a PPP project in its balance sheets, focusing on the variability of income over time, variability of costs and ability of parties to manage risks. International standards predominantly support this approach, but national accounting regulations, particularly in the public sector, in many countries of the region do not, creating numerous ambiguous situations and possibilities for unjustified recording of property off the balance sheets by the public sector.

5) Transparency, public consensus and communication. Communication policy and public reach are very relevant and sensitive segments of the PPP implementation that need further improvement in the countries of the Western Balkan region. Broad public consensus is necessary regarding the participation of private sector in development of infrastructure, especially with projects where the project financing method is based on payment by end users. Since all of the countries of this region used to have the system of planned economy, they still may record systematic problem of perception of the role of private sector in infrastructure provision and other public services, making it very difficult to quickly shift to a concept of financing which entails the obligation of the end user to pay fees. Proper communication policy becomes a critical segment particularly in less favourable environment of certain PPP projects surrounded by factors such as: insufficient traffic intensity, low purchasing power of the population (private concession models and other PPP forms based on end user tolls are much less profitable in developing markets than in the Western European countries and other developed countries), limited availability of alternative routes (Brenck et al., 2005).

The Infrascope 2017 study also identifies areas that require attention within specific countries and across the group. "Although all countries in the study have developed enabling regulatory frameworks, overall PPP coordination is lagging in many of them. Moreover, some countries have yet to test their frameworks through an entire project life cycle. Transparency is also an issue: most of countries reviewed here do not yet require the publication of contracts, for example, and governments do not
generally have publicly accessible PPP registries. Other issues include the limited utilization of capital markets for PPPs in most countries. Sustainability factors, including climate change and disaster risk, are not yet fully integrated into PPP frameworks in any of the countries in this study” (The Economist Intelligence Unit, 2017).

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REFERENCES


PLEASE, MIND THE GAP: INCOME INEQUALITY IN SERBIA

Gorana Krstić*, Jelena Žarković Rakić**

Abstract Rising income inequality has attracted attention of researchers and policymakers in much of the developed world, especially after the 2008 economic crisis. In majority of the OECD countries, the club of mostly rich economies, the Gini coefficient, standard measure of income inequality, increased over the 1980-2008 period by 10%, from 0.29 to 0.32. The 1980s are often seen as a turning point in inequality surge.

According to the 2013 Survey on Income and Living Conditions, Serbia has the highest income inequality among European countries, 0.38 as measured by the Gini coefficient. Moreover, despite data limitations, there is evidence that inequality has been growing since the onset of the latest economic crisis. The research on causes of high inequality in Serbia is scarce and the topic does no stand high on the policymakers’ agenda. This paper aims to fill the gap in literature by investigating determinants of inequality in order to point to the possible policy reforms that could reverse the trend. By applying a regression-based method, we have decomposed inequality by various characteristics which we expect to influence income (such as age, education, sex, etc.). Our results show that education plays an important role in explaining wage inequality in Serbia.

Keywords: income inequality, decomposition approach, Serbia

JEL: D31, H23, I38
Field: Economics

1. INTRODUCTION

Growing income inequality has attracted the attention of researchers and decision-makers in a number of developed countries, particularly after the last global economic crisis in 2008 (Piketi, 2015; Milanović, 2016; Stiglitz, 2015; Atkinson, 2015; IMF, 2015; World Bank, 2016).

As Atkinson (2015) suggests, the 1980s were a turning point for the inequality trends. In the United States of America (USA), the Gini coefficient rose by 4.5 percentage points (pp) between 1977 and 1992, while for the same period in the United Kingdom (UK), the rise was 9 pp. Since 1992 the Gini has increased by a further 3 pp in the USA, while in the UK it has remained at around the same level for the last two decades. Data on other OECD countries show that the Gini coefficient, in the period from the mid-1980s to 2008, rose by 10 percent, from 0.29 to 0.316, in 17 out of 22 countries. Studying differences in inequality trends across countries over time is important for determining the causes of growing income and wealth inequality (Atkinson, 2015). Among the most frequently identified factors that caused surge in income inequality in developed countries are: globalisation and technological progress that benefited high-skilled workers, regulatory policies, taxes and social transfers (OECD, 2011).

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Over the same period, former communist countries of Central and Eastern Europe have seen a rise in income inequality as well. Transition to a market economy has intensified the existing inequalities and, despite the difference in the inequality patterns and rates across countries, what was common for majority of them is that increasing wage inequality was the main driver of the total income inequality surge (Milanović, 1999).

According to the data from the Survey on Income and Living Conditions (SICL), for the last couple of years income inequality, measured by the Gini coefficient, has been the highest in Serbia among the European countries. The Gini of 38.6 points in 2016 was significantly higher than the average Gini for the EU-28 countries (31), also higher than in the neighbouring countries such as Macedonia (35.2) and Croatia (30.6), and in particular above the value of the Gini for Slovenia (24.5), and these are all former Yugoslav republics.

Despite the fact that high income inequality is detrimental to economic growth (IMF, 2014; OECD, 2015) and can cause political and social instability, the research on the determinants of inequality in Serbia has been rather scarce so far and the interest of policymakers for the topic quite limited. One of the first papers that addressed the issue of income inequality in Serbia in the post-2000 period was the paper by Milanović (2003) who found that rising wage disparities, driven by significant changes in the labour markets, had the largest impact on income inequality. Krstić and Sanfey (2011) analysed the extent and evolution of informality and inequality over the 2002-2007 period. They showed that informal employees earned significantly less than those in the formal sector, controlled for a range of other variables, and that informality played an important role in explaining earnings inequality. Randelović and Žarković Rakitić (2011) analysed the redistributive capacity of Serbian tax and benefit system and compared it to the (mostly old) European Union member states. They have shown that personal income tax systems of the EU countries have, on average, nine times higher capacity to reduce inequality due to their progressivity. Similarly, major social transfers in these EU countries reduce the Gini coefficient seven times more than similar type of benefits in Serbia.

Although limited and fragmented, previous research points to possible determinants of high inequality in Serbia – low redistributive power of taxes and social transfers and troubled labour market situation in the country, and the necessary improvements in public policies in order to bring down high levels of inequality. Despite that, inequality has not been a priority on the agenda of policymakers. When assessing the impact of any public policy, the effect on inequality is not a criterion for decision making, regardless of the fact that the respective measure has clear redistributive effects. For example, when the global economic crisis hit Serbian economy in late 2008, economic policymakers started considering several stabilisation and stimulation measures. Initially, increasing value-added tax was mentioned, as a way to cut
the fiscal deficit in 2009. It was followed by deliberations about the introduction of solidarity tax on higher incomes. Ultimately, the economic policy authorities opted to base fiscal adjustments mainly on the introduction of some minor ad hoc taxes on spending, as well as on cutting public spending by freezing/temporarily cutting above-average wages in the public sector. Although the Government opted for the latter solution, most probably based on certain macroeconomic calculations, some equally important questions appear to have gone unanswered. For instance, no estimates were made with regard to whether the disposable household income would be more affected by the VAT rise or the introduction of the solidarity tax, which groups of population would actually be affected and to what extent, as well as whether the benefits, measured by additional tax revenues, would outweigh the losses (Žarkovic Rakić, 2010). Similarly, since the introduction of austerity measures in early 2015, public debate has taken into consideration only the effects of these measures on the budget deficit and public debt, while the effects on inequality have not been discussed, in spite of the fact that all the implemented measures had distributive consequences. Last year, the Republic Secretariat for Public Policies formulated the Decree on the methodology of public policy management, policy and regulatory impact assessment and content of individual public policy documents, obligating state authorities to assess policy impact on inequality and poverty prior to their adoption. The decree has not yet been adopted.

Using the decomposition approach (non-regression and regression-based), this paper examines the nature of income inequality in Serbia. We shall decompose wage inequality by various characteristics which we expect to influence wages (such as age, education, sex, etc.). After this short introduction, the next section discusses data on income inequality in Serbia and reviews literature that has tackled this topic. Methodology and data are presented in section 3, while section 4 discusses the results. Conclusions and policy recommendations are given in the last section.

2. INCOME INEQUALITY IN SERBIA: TRENDS AND POTENTIAL DETERMINANTS

In the 2013-2016 period, inequality of income distribution in Serbia measured by the Gini coefficient was high and relatively stable (Table 1). The Gini of 38.6 points in 2015 is significantly higher than the average Gini for the EU-28 (31.0), and is also higher than in other successor countries of former Yugoslavia, such as Macedonia (35.2), Croatia (30.6), and particularly Slovenia (24.5).1

Also, as can be seen from Table 1, income inequality is high when measured by the quintile share ratio which is the ratio of total income received by the 20% of the population with the highest income (the top quintile) to that received by the 20% of the population with the lowest income (the bottom quintile). The value of this indi-

2 http://ec.europa.eu/eurostat/tgm/table.do?tab=table&language=en&pcode=tessi190
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cator is significantly higher than the average value for 28 EU countries (5.2), but also higher than in the countries with the highest values recorded, such as Romania (8.3), Lithuania (7.5), Macedonia (7.2 in 2013) and Bulgaria (7.1)

Table 1: Equivalised disposable income inequality in Serbia, SILC, 2013-2016

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini coefficient (x100)</td>
<td>38.0</td>
<td>38.6</td>
<td>38.2</td>
<td>38.6</td>
</tr>
<tr>
<td>Income quintile share ratio</td>
<td>8.6</td>
<td>9.8</td>
<td>9.0</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Note: Income data relates to the previous year.
Source: Survey of Income and Living Conditions (SILC), Eurostat

In order to discuss trends in income inequality in Serbia over a longer period of time, Household Budget Survey (HBS) data can be used, as the first SILC survey was conducted in 2013. Table 2 shows that inequality measured by the Gini coefficient dropped in the period from 2006 until the onset of the economic crisis, based on the HBS. Furthermore, we may notice a substantial increase in inequality since 2010, which was partly caused by the different sources of data used.

Table 2: Equivalised disposable income inequality in Serbia, HBS, 2006-2010

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>35.4</td>
<td>34.1</td>
<td>32.1</td>
<td>31.2</td>
<td>33.0</td>
</tr>
</tbody>
</table>

Note: Income in kind not included in the total income.

Table 3 compares inequality of disposable income for a given year using different data sources, HBS on the one hand and Living Standards Measurement Study (LSMS) or SILC on the other. For this exercise, we have made comparable income measures using different data sources, meaning that disposable income for a given year is defined either in per capita or in per adult equivalent terms. Disposable income for 2007 based on both data sources is measured per adult equivalent, while for 2013 it is measured in per capita terms. Therefore, we are not comparing changes in inequality between 2007 and 2013, but only differences in inequality between these years resulting from different data sources. The results show that the Gini coefficient of disposable income is lower by 3-5 points in both years when HBS is considered as opposed to the LSMS or SILC data. Given that income in kind is not included in disposable income, when using 2013 SILC data, its inclusion would decrease the Gini coefficient by approximately 1.5 Gini points (Krstić, 2016), thus making almost the same differ-

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3 We were not able to calculate equivalised disposable income for both years as we did not have HBS individual level data for 2013. We only had the Gini coefficient of disposable income per capita for 2013 obtained from the Luxembourg Income Study Database.
ence in income inequality between HBS and LSMS in 2007 and between HBS and SILC in 2013. A possible explanation for lower income inequality measured by HBS compared to other survey data (SILC or LSMS) is that all income components and especially wages (that contribute to inequality the most) were better captured by SILC (or LSMS) than by HBS, because HBS is primarily designed to measure consumption and not income. However, further research is needed to disentangle all the possible causes of lower income inequality measured by HBS.

Table 3: Gini coefficient of disposable income using HBS and LSMS/SILC data, 2007 and 2013

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable income, HBS</td>
<td>34.1</td>
<td>34.9</td>
</tr>
<tr>
<td>Disposable income, LSMS 2007/SILC 2013</td>
<td>37.0</td>
<td>39.9</td>
</tr>
</tbody>
</table>

Notes: In-kind income included in 2007 (based on HBS and LSMS data) and in 2013 using only HBS data. Disposable income is defined per adult equivalent in 2007, and per capita in 2013.


Quantitative data are in line with qualitative indicators, that is individuals' perceptions of the growing polarisation in Serbian society. A recent World Bank study (World Bank, 2016) has revealed that in the Western Balkan countries, raising income standard for the lower part of the income distribution has been lower than for those at the top (Figure 1). Across countries, people show dissatisfaction with weak economic prospects and unequal chances. This could be explained by the recent economic slump. However, as World Bank asserts, similar perceptions marked the pre-crisis period and are consistent with the findings from the mid-2000s when the region was growing at high rates.\(^4\)

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\(^4\) These are the findings from the Life in Transition Survey from 2006.
Figure 1: Inequality is perceived to be widening

Many factors have contributed to such high income inequality in Serbia. Among others, these include a high rate of very low work intensity of households and modest redistributive role of direct taxes and social transfers. Pensions significantly reduce the level of income inequality, although much less than in the majority of the EU member states. Social transfers, excluding pensions, are more efficient in reducing income inequality than taxes, and are close to the average level for the EU. Social transfers, excluding pensions, reduced income inequality measured by the Gini coefficient by 3.5 to 4.6 percentage points in Serbia, depending on the method used, while taxes reduced it by 2.8 percentage points (Krstić and Žarković Rakić, 2017). Low coverage of social transfers, particularly monetary social assistance and child benefits, and very low progressivity of the Serbian tax system, explain the relatively modest, according to international standards, redistributive role of direct taxes and social transfers.

**TABLE 4: INEQUALITY OF MONTHLY WAGE, SILC 2013**

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average monthly main job wage net, in dinars</td>
<td>37,748.1</td>
</tr>
<tr>
<td>Inequality measures for overall earnings</td>
<td></td>
</tr>
<tr>
<td>Theil's entropy measure</td>
<td>0.1573</td>
</tr>
<tr>
<td>Gini coefficient</td>
<td>0.2946</td>
</tr>
</tbody>
</table>

Source: SILC 2013. Authors’ own calculations.
The results of factor-source decomposition approach suggest that wages contributed the most to total inequality of disposable income (93%). Wages are the largest single income source of disposable income, and are distributed predominantly towards the richer segments of the population (Krstić and Žarković Rakić, 2017). Hence, this paper further examines the factors responsible for explaining wage inequality. Table 4 reports average monthly main job wages of employees along with two inequality measures, Theil's entropy measure and the Gini coefficient. Both inequality measures appear slightly lower in 2012 than in 2007, based on LSMS data, and more comparable with 2002 (Krstić and Sanfey, 2011).

3. METHODOLOGY AND DATA

3.1 METHODOLOGY

We follow Krstić et al. (2007) in using an OLS regression-based approach to identify the key determinants of the level of main job earnings inequality in Serbia for 2012. This approach suggested by Fields (2002) allows for the contribution of each regression factor to the level of earnings inequality to be quantified and isolated.

The methodology can be summarised as follows. We assume a wage-determining function of the following form:

\[
\ln(w_i) = \beta_0 + \sum_{j=1}^{k} \beta_j X_{ji} + u_i, \quad (1)
\]

where \(\ln(\cdot)\) denotes the natural logarithmic operator, \(X_{ji}, j=1, \ldots, k\) represents wage-determining variables (e.g. labour force experience, education, marital status, private sector/informal sector, industry sector, settlement, region, hours worked). Equation (1) can be re-expressed as:

\[
\ln(w_i) = \sum_{j=0}^{k+1} a_j Z_{ji} = \mathbf{a}Z', \quad (2)
\]

where \(\mathbf{a} = [\beta_0, \beta_1, \beta_2, \ldots, \beta_k, 1]\), and \(Z = [1, X_{1i}, X_{2i}, X_{3i}, \ldots, X_{ki}, u]\).

Standard inequality measures, defined on the vector of wage \((w_i)\), are continuous and symmetric functions that equal zero when all workers receive the mean wage. Given the above wage-determining function, we can define the inequality index on the vector of log wages as \(I(\cdot) = I[\ln(w_1), \ln(w_2), \ln(w_3), \ldots, \ln(w_N)]\). It can be shown (see Shorrocks, 1982), that the share of the \(j^{th}\) factor in the inequality of the income measure used is given by:

\[
S_j[w] = \frac{\text{cov}[a_i Z_{ji}, w]}{\sigma^2(\ln(w))} = \frac{a_j \times \text{cor}(Z_j, w)}{\sigma(\ln(w))}, \quad (3)
\]

5 This discussion draws on Krstić et al. (2007).
where \( \sigma(\cdot) \) denotes the standard deviation, \( \text{cor}(\cdot) \) the correlation coefficient, and where
\[
\sum_{j=1}^{k+1} S_j[w] = 1.0
\]
holds for any inequality index that is continuous and symmetric.

Fields (2002) verifies that once a log-linear model is specified, the results obtained, using this methodology, are not dependent on the inequality measure used.

In order to account for differences in inequality between two time periods (0 and 1), we note:
\[
[I(\cdot)]_1 - [I(\cdot)]_0 = \sum_{j=1}^{k+1} [S_{j,1} \times [I(\cdot)]_1 - S_{j,0} \times [I(\cdot)]_0].
\]

In our research, we will use the Gini, Theil’s entropy measure and the variance of log wages as the dispersion measures.

We also apply the non-regression-based approach which allows for the decomposition of inequality measures by factor (or group) components suggested by Jenkins (1995), so that the total income inequality \( I \) equals the sum of inequalities between selected groups \( I_b \) and residual inequality within the group \( I_w \):
\[
I = I_b + I_w
\]

\( I_b \) is defined as:
\[
I_b = \frac{1}{\alpha^2 - \alpha} \left[ \sum_{j=1}^{k} f_j \left( \frac{\bar{y}_j}{y} \right)^\alpha - 1 \right]
\]

\( I_w \) is defined as:
\[
I_w = \sum_{j=1}^{k} w_j GE(\alpha)_j
\]

\[
w_j = v_j^\alpha f_j^{1-\alpha}
\]

where \( f_j \) is the share in total population, \( GE(\alpha) \) is generalised entropy and \( v_j \) the share in total income of every group \( j \).

Inequality within a group is defined as the weighted sum of inequalities within each group, where weights are population shares and income shares. Inequality between the groups is calculated for the entire population when every individual income \( y \) within a group is replaced by the average income of that group \( \bar{y}_j \), so that this inequality reflects the difference in average income between the groups. For this decomposition, we use Theil’s entropy measure \( (\alpha=1) \) as inequality measure.
3.2 DATA

The data for this study are obtained from the Survey of Income and Living Conditions, which was conducted for the first time in Serbia in 2013 on a representative sample of households. The sample covered 6,501 households, i.e. 20,069 individuals aged 16 and over and the survey collected information on their activity, income, social exclusion, and living conditions, based on Eurostat methodology. The reference period for income and labour market activity of household members is the year 2012. The data are representative at the national level, and expressed by regions (four regions) and degree of urbanisation.

The wage measure used in this paper is based on the monthly salary in the main job and excludes taxes, social security contributions and any welfare payments related to the wage received. The analysis refers only to wage earners, due to the unreliability of earnings data for non-wage workers. It should be noted that wages relate to individuals who received them and are not calculated on the household level and expressed per adult equivalent as it is the case in the analysis of its contribution to total income inequality.

4. RESULTS

We start with examining the nature of Serbian wage inequality using the non-regression-based approach and then provide a detailed analysis of inequality using the regression-based approach. Both methodologies are outlined in the methodology section. The first type of decomposition of inequality measures by factor (or group) components is performed according to groups comprised of gender, age, educational level, marital status, industry sector, degree of urbanisation and region. Table 5 shows that most of the earnings inequality is explained by within-group inequality. Regarding between-group inequality, educational level accounts for the greatest part of that inequality. This finding is consistent with previous research using the LFS sample of male employees in 1996-2003 (Krstić et al., 2007) and also using LSMS sample of employees in 2002-2007 (Krstić and Sanfey, 2011).
Table 5: Within-group and between-group monthly wage inequality, Theil’s entropy measure, SILC 2013

<table>
<thead>
<tr>
<th></th>
<th>Within group</th>
<th>Between group</th>
<th>% between group in all inequalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.1439</td>
<td>0.0010</td>
<td>0.67</td>
</tr>
<tr>
<td>Age</td>
<td>0.1395</td>
<td>0.0050</td>
<td>3.44</td>
</tr>
<tr>
<td>Education</td>
<td>0.1125</td>
<td>0.0324</td>
<td>22.36</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.1441</td>
<td>0.0008</td>
<td>0.57</td>
</tr>
<tr>
<td>Industry</td>
<td>0.1442</td>
<td>0.0006</td>
<td>0.44</td>
</tr>
<tr>
<td>Degree of urbanisation</td>
<td>0.1350</td>
<td>0.0099</td>
<td>6.83</td>
</tr>
<tr>
<td>Region</td>
<td>0.1390</td>
<td>0.0059</td>
<td>4.07</td>
</tr>
</tbody>
</table>

Source: SILC 2013. Authors’ own calculations.

We shall now identify some of the key factors that determine the level of main job wages in Serbia. We include the standard explanatory variables in the wage regression, which are used in the above decomposition analysis. Table 6 reports OLS estimates for the augmented Mincerian monthly wage equation based on the sample of employees who reported non-zero wages in their main job and are aged between 16 and 64 years.

The fits of the equation are satisfactory and the included regressors explain 29 percent of the total variation in monthly wages in 2012. Almost all estimated coefficients are highly significant. The estimated wage returns rise with age and level of education. Regarding estimated industry effects, workers in agriculture and services earn less than in industry. Living in densely populated areas provides wage premium as opposed to living in thinly populated areas. Regarding the effects of regions, employees in Belgrade, the capital of Serbia, enjoy significant wage premia relative to those living in other Serbian regions.
Table 6: OLS regression estimates for monthly wages, SILC 2013

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.165</td>
<td>(0.015)***</td>
</tr>
<tr>
<td>16-25</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>26-35</td>
<td>0.124</td>
<td>(0.034)***</td>
</tr>
<tr>
<td>36-45</td>
<td>0.242</td>
<td>(0.036)***</td>
</tr>
<tr>
<td>46-55</td>
<td>0.258</td>
<td>(0.037)***</td>
</tr>
<tr>
<td>56-64</td>
<td>0.275</td>
<td>(0.042)***</td>
</tr>
<tr>
<td>Primary</td>
<td>0.191</td>
<td>-0.137</td>
</tr>
<tr>
<td>Lower secondary</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Upper secondary</td>
<td>0.155</td>
<td>(0.022)***</td>
</tr>
<tr>
<td>Post-secondary, not tertiary</td>
<td>0.398</td>
<td>(0.052)***</td>
</tr>
<tr>
<td>Tertiary</td>
<td>0.599</td>
<td>(0.026)***</td>
</tr>
<tr>
<td>Single</td>
<td>-0.04</td>
<td>(0.019)**</td>
</tr>
<tr>
<td>Married</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Divorced/Widowed</td>
<td>0.029</td>
<td>-0.024</td>
</tr>
<tr>
<td>Agriculture</td>
<td>-0.093</td>
<td>(0.054)*</td>
</tr>
<tr>
<td>Industry</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>-0.071</td>
<td>(0.019)***</td>
</tr>
<tr>
<td>Densely populated area</td>
<td>0.081</td>
<td>(0.018)***</td>
</tr>
<tr>
<td>Intermediate urbanised area</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Thinly populated area</td>
<td>-0.044</td>
<td>(0.019)**</td>
</tr>
<tr>
<td>Belgrade</td>
<td>0.038</td>
<td>(0.021)*</td>
</tr>
<tr>
<td>Vojvodina</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>&quot;Šumadija and Western Serbia&quot;</td>
<td>-0.081</td>
<td>(0.019)***</td>
</tr>
<tr>
<td>Southern and Eastern Serbia</td>
<td>-0.118</td>
<td>(0.021)***</td>
</tr>
<tr>
<td>Lmhours</td>
<td>0.209</td>
<td>(0.052)***</td>
</tr>
<tr>
<td>_cons</td>
<td>8.790</td>
<td>(0.277)***</td>
</tr>
<tr>
<td>F statistic</td>
<td>84.3</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.287</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>4270</td>
<td></td>
</tr>
</tbody>
</table>

Notes: (a) Sample relates to employees, aged 15-64, who reported non-zero earnings. (b) The dependent variable is the log of monthly wages. All explanatory variables, with the exception of monthly hours (logged), are binary variables. (c) The estimation procedure is OLS and White (1980). Estimated standard errors are reported in parentheses. (d) The critical value for the Breusch-Pagan test for heteroscedasticity at the 0.05 level is 22.5 in all cases. (e) F denotes the category omitted in estimation. (f) ***, ** and * denote statistical significance at the 0.01, 0.05 and 0.10 levels, respectively, using two-tailed tests. Source: SILC 2013. Authors' own calculations.

We shall now focus on examining more important factors that determine the level of labour market wage inequality as reported in Table 7. Although the fits of the estimat-
ed equations are respectable (Table 6), a considerable amount of the total variation in log monthly wages is unexplained by the wage-determining factors. The residual components are sizeable and most of the inequality is, thus, unexplained. Given that unobservable factors appear to dominate the process, it seems that a great deal of noise in the wage determination process in Serbia remained. In terms of the explained component, however, Table 7 reports educational qualifications, as the most important factor, which accounts for 63 percent of the explained level of inequality in 2012. It should be noted that the role of education as the most responsible factor for the explained level of inequality was also observed in the 2002-2007 period (Krstić and Sanfey, 2011).

Educational qualifications and the position on the income ladder are interrelated, which is confirmed by the PISA research6. PISA results also suggest that educational system in Serbia does not succeed in offsetting the effects of socio-economic inequalities as families in the bottom 20% of the population with the lowest socio-economic status have twice as many functionally illiterate children as the families from the top 20%. Children in the former group lag two school years behind their peers from well-off families.

### Table 7: Factor inequality shares for monthly wages, SILC 2013

<table>
<thead>
<tr>
<th>Factor shares</th>
<th>% of explained inequality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.0169</td>
</tr>
<tr>
<td>Age</td>
<td>0.0276</td>
</tr>
<tr>
<td>Education</td>
<td>0.1660</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.0032</td>
</tr>
<tr>
<td>Industry</td>
<td>0.0085</td>
</tr>
<tr>
<td>Degree of urbanisation</td>
<td>0.0210</td>
</tr>
<tr>
<td>Region</td>
<td>0.0181</td>
</tr>
<tr>
<td>Hours (log)</td>
<td>0.0023</td>
</tr>
<tr>
<td>Residual</td>
<td>0.7363</td>
</tr>
<tr>
<td>Sample size</td>
<td>4,270</td>
</tr>
</tbody>
</table>

Source: SILC 2013. Authors’ own calculations.

The second important factor is age, accounting for around 10 percent of the explained level of inequality. In addition to age, degree of urbanisation, region and gender play an important role as well, while other factors, such as marital status, industry sector and monthly hours worked had a negligible role in explaining the level of wage inequality in Serbia.

6  http://www1.worldbank.org/poverty/visualizeinequality/PISA/cov_gaps.html
5. CONCLUDING REMARKS

According to SILC data, Serbia has recorded the highest income inequality among European countries for the last couple of years. Comparable data for the earlier period do not exist, but there are indications that since the 2000s, inequality in Serbia has been above the average inequality in the EU, and that it has been rising. One of the reasons for such a situation is related to a high percentage of people living in households with very low work intensity. Majority of them are unemployed and pensioners. Despite the recent data from the Labour Force Survey showing a drop in the unemployment rate, in order to reduce the level of income inequality, it is important to create a larger number of high-quality jobs, preferably in the formal economy.

Regression analysis revealed that educational qualifications account for the largest part of the explained level of inequality in wages, which are the largest source of income for the majority of population. Educational qualifications are important predictor of person’s income and their position on the income ladder. This is an important message for policymakers wishing to reduce current high levels of income inequality in Serbia. Higher levels of education increase the likelihood that a person will find a good job and have decent standards of living. However, what is disconcerting is that previous research has revealed that educational system in Serbia is not providing equal chances for every child, but is instead preserving or even intensifying existing inequalities as children born in families at the bottom of the income ladder achieve worse results at PISA tests than their peers born in well-off families. Therefore, creating an education system that suits everybody is of utmost importance if the country intends to reverse the trend of increasing income inequality that has marked the last decade.

Finally, in order to be able to provide evidence-based policy-making, it is important to have high-quality data such as SILC. Surveys with detailed records on various income sources, labour market variables and other important information provide an adequate insight into the levels of inequality and a solid base for studying determinants of income inequality.

REFERENCES


ON THE EUROZONE SOVEREIGN DEBT CRISIS FROM A MULTIMODAL COGNITIVE PERSPECTIVE

Nadežda Silaški¹, Tatjana Đurović²

Abstract: The European sovereign debt crisis, which started in 2008 in Iceland and then rapidly spread to Greece, Portugal and Ireland, threatened to derail the European common currency and therefore caused widespread concerns about the future of the euro. Many studies which have explored the topic of the Eurozone crisis and its underlying discourse have so far centered mainly on verbal metaphors used to depict its causes and consequences, whereas visual and multimodal aspects of the phenomenon have remained rather underrepresented. Therefore, within the theoretical framework of Conceptual Metaphor Theory, which pertains not only to verbal (Lakoff & Johnson 1980, Charteris-Black & Musolff 2003, Charteris-Black 2004, etc.) but also to pictorial and multimodal discourse (Forceville 1996, Forceville 2008, Forceville & Urios-Aparisi 2009, etc.), in this paper we tackle the topic of the European sovereign debt crisis by examining the role of both verbal and visual instances of metaphors for the common European currency in media texts. More specifically, we focus on both linguistic and pictorial realisations of the euro currency which have relevance to the broader topic of the Eurozone crisis. The data collection for our analysis consists of a number of covers of the weekly magazine The Economist published in the period 2008-2014, which relate to the given topic. Our method of analysis is closely modelled on Bounegru and Forceville (2011) and their clear criteria for the identification of metaphors in multimodal discourse. The purpose of our investigation is to demonstrate how verbal and visual modes of expression contribute to the metaphorical creation of the euro on the covers of The Economist, i.e. to establish how the metaphorical structuring of the euro is used by the media to describe the impact of the Eurozone financial crisis on the common European currency. The results of our analysis show that this is done by employing suggestive metaphorical pictures accompanied by textual messages and symbols, whose main functions are to alert readers and make them aware of the depicted and perceived similarities between diverse concepts, such as liquid, movement, fire, or food rendered by our data collection, on the one hand, and the euro crisis, on the other.

Key words: Eurozone crisis, metaphor, multimodality, magazine covers

JEL classification: A12
Field: Economics

1 INTRODUCTION

What started as the US subprime mortgage crisis and the bursting of so-called housing bubble in 2006 has rapidly escalated into the global phenomenon, contributing also to the Eurozone crisis, which began in late 2009 frequently termed the Greek crisis, Greece becoming the symbol of government indebtedness. In spite of an enor-
mous bail-out package, totalling 240 billion euros, as agreed by the Troika (the European Commission, the European Central Bank and the International Monetary Fund) to be transferred at regular tranches throughout the period from May 2010 until December 2014 (in return for implementation of drastic measures to reduce government budget deficit by spending cuts and tax increases, usually referred to as austerity measures), Greece has so far failed to bring the huge deficit under control, jeopardising the whole idea of monetary union and of using the euro as the single currency. However, when a number of countries began to follow Greece's suit – Spain, Portugal, Italy, Cyprus, Ireland – yet not exactly to the same extent or character, two things became obvious: first, that the Greek debt crisis is a mixture of not only internal but external factors as well, and second, if the implemented measures have to date proved inefficient and insufficient in the case of rather small, peripheral economy such as that of Greece, the prospects for bailing-out huge economies as Spain's or Italy's are totally bleak and can lead to the dissolution of the Eurozone. Still, the estimated costs of such scenario – the Eurozone's break-up, are devastating, so the EU leaders and their governments have been in constant debates, negotiations and meetings how to resolve the issue and save one of the most important symbols the EU identity – the euro.

Many studies which have explored the topic of the Eurozone crisis and its underlying discourse have so far centered mainly on verbal metaphors used to depict its causes and consequences, whereas visual and multimodal aspects of the phenomenon have remained rather underrepresented. Therefore, in this paper we deal with the multimodal analysis of the front covers of *The Economist* magazine, at the time when the financial turbulence in the Eurozone that erupted in the late 2009 as a debt crisis taking place in several Eurozone member states, which were unable to repay or re-finance their government debt and had to be rescued by “the Troika”, has triggered a myriad of representations, the media's being just one of them. More precisely, we tackle the topic of the Eurozone crisis or the European sovereign debt crisis, as it is alternatively called, examining, in line with the main postulate of multimodality that there are different modes used to create meaning – verbal and non-verbal ones, both linguistic and pictorial realisations of the euro currency which relate to the broader topic of this crisis. We will try to establish how the Eurozone crisis is communicated on the covers of *The Economist* magazine, in an attempt to unpack both verbal and pictorial modalities of metaphor and other cognitive devices such as metonymy and image schemas used on these covers.

Nowadays, “[t]he majority of newspapers and magazines add visual images concerned with the contents of newspaper and magazine articles with the aim of helping readers have a thorough understanding of topics and contents of newspaper and magazine articles” (Yang & Zhang 2014: 2564). This is especially true of magazine front covers, which aim, by carefully and convincingly combining the verbal and the visual into persuasive messages, to inform readers about the latest events as well as to influence
their line of reasoning about such events, in accordance with the worldview magazines wish to represent and defend. It is therefore possible to speak of the language of magazine front covers as a special type of multimodal discourse, having important multiple functions of attracting, informing and persuading potential readers, as well as helping them to understand the message, at the same time slanting this message in such a way as to influence this understanding to suit the policy of the publication.

The purpose of our investigation is to answer the following two questions: (1) how do verbal and visual modes of metaphorical representation contribute to the creation of a particular conceptualisation of the euro currency, and (2) what are some of the evaluative components rendered from the selected multimodal representations? In order to address these questions, we attempt to establish how the conceptualisation of the euro, realised by means of several monomodal or multimodal mappings, is used by the media so as to describe the impact of the eurozone financial crisis by the use of suggestive pictures accompanied by textual messages and symbols.

Our paper is structured in the following way: after a brief account of the theoretical framework underlying our analysis, given in Section 2, in Section 3 we deal with our data collection and the method of analysis. The focus of Section 4 is on the analysis of the covers which make up our data collection. Here we provide and discuss the most common monomodal or multimodal metaphorical mappings found on the selected covers pertaining to the Eurozone crisis, especially focusing on the liquid, movement, fire and food domains, which is followed by an account of the use of personification in the metaphorical structuring of the euro. Finally, in Section 5 we summarise and discuss our findings and point out the significance of the choice of metaphors for the overall editorial orientation of a magazine.

2. THEORETICAL BACKGROUND

The theoretical underpinnings are based on Cognitive Theory of Metaphor and Metonymy (Lakoff & Johnson 1980, Charteris-Black & Musolff 2003, Charteris-Black 2004, Radden & Kövecses 1999, Benczes, Barcelona & Ruiz de Mendoza Ibáñez 2011, etc.) on the one hand, and the theory of multimodal discourse (Forceville 1996 & 2008, Forceville & Urios-Aparisi 2009, Bounegru & Forceville 2011, etc.) on the other, in which the meaning is created through some other modes of communication other than the verbal one. Although Cognitive Theory of Metaphor and Conceptual Metaphor Theory (CMT) in particular have been widely and critically assessed over the last thirty years (see e.g. Kövecses 2008, Gibbs 2011, etc.), our application of CMT stems from the original Lakoff and Johnson’s views (1980) in which the claim is made that metaphors are a property of not words but of concepts and that, as such, they enhance understanding of particular concepts and ideas. In cognitive linguistic terms, one conceptual domain – the target, is understood in terms of another conceptual
domain – the source, where a “conceptual domain” refers to “any coherent organization of experience” (Kövecses 2002: 4).

While rather neglected at the very onset of cognitive linguistic research, metonymy has gradually begun to be considered an equally important cognitive device for influencing the way we think and many authors have claimed that it is “a cognitive phenomenon that may be even more fundamental than metaphor” (Panther & Radden 1999: 1), a view which has been reiterated in a number of further volumes on metonymy and metaphor (e.g. Dirven & Pörings 2002, Barcelona 2003, etc.). Although disagreements still arise among cognitive linguists concerning many unresolved issues surrounding metonymy as a cognitive mechanism, it has now been widely accepted that “metonymy plays a crucial part in the motivation of numerous conceptual metaphors” (Benczes, Barcelona & Ruiz de Mendoza Ibáñez 2011: 2). Metonymy also refers to mappings between conceptual domains, but unlike metaphor which entails a mapping between two conceptual domains, where the source is used to structure the target, metonymy, on the other hand, is according to the standard cognitive linguistic view understood as a conceptual projection whereby one domain is partially understood in terms of another domain included in the same experiential domain (Barcelona 2000). It is, therefore, often understood as an intradomain phenomenon, but unlike metaphor where mapping is symmetrical, in metonymy mapping is asymmetrical – a more salient entity provides mental access to a less salient domain or entity within the same domain (Barcelona 2011: 12; see also Kövecses & Radden 1998, Radden & Kövecses 1999).

In analysing magazine covers, which typically consist of a photograph or illustration, accompanied with a headline and other verbal elements, we focus on cognitive devices pertaining to the Eurozone crisis which are not, or not exclusively verbal, but rather visually, i.e. pictorially manifested. If, according to Lakoff and Johnson “[t]he essence of metaphor is understanding and experiencing one kind of thing in terms of another” (Lakoff & Johnson 1980: 5), then it is possible to reason, as Forceville (2009a) does, that if verbal metaphors are manifestations rather than reduplications of thought, one of these manifestations may be non-verbal or pictorial, which in turn should contribute to the completeness of a theory of metaphor. Unlike monomodal metaphors, such as the prototypical verbal metaphors, multimodal metaphors, as defined by Forceville (2009b: 24), are “metaphors whose target and source are each represented exclusively or predominantly in different modes”, where adverbs exclusively or predominantly are particularly relevant since, according to the author, “non-verbal metaphors often have targets and/or sources that are cued in more than one mode simultaneously” (Forceville 2009b: 24). Since magazine front covers can hinge on only two modalities, metaphors in our analysis also belong to either monomodal metaphors, i.e. either verbal metaphors or pictorial/visual metaphors, or to multimodal metaphors, composed of both the verbal and visual modalities (Bounegru & Forceville 2011). In addition, it is worth emphasising that the motivation for mapping the
source domain onto the target domain in multimodal metaphors goes well beyond the notion of embodiment which is so widely used in CMT to provide concreteness to the source domain. Rather, as Forceville claims, knowledge about source domains is also a matter of cultural connotations “that are metonymically related to a source domain [and] are often more important for potential mappings to a target than its embodied aspects” (Forceville 2009b: 28). Our analysis of *The Economist* magazine covers related to the Eurozone crisis will also show that the source domains of the multimodal metaphors are grounded both on our physical experience and cultural contexts.

Pictorial and multimodal metaphors used on the cover, the most prominent part of a magazine, are forms of mass communication and thus should bring about a strong impact on the readership. The importance of effective magazine covers may be attributed to several reasons. Firstly, they serve as an introduction to the articles featured inside and should be as attractive to readers as possible so as to make them buy the magazine. In this sense, a magazine cover functions metonymically in relation to the whole text contained inside, thus having to be strong and salient enough as a part to represent the whole. But, as Cortés de los Ríos (2010: 84) claims, dealing with the cognitive devices to communicate the economic crisis on the covers of *The Economist* magazine, “the magazine cover is not simply a visual and verbal summary of what is considered the most important current topic; it is also an important form of self-advertising”. In this sense, a magazine cover serves not only as an advertisement, but also as a means of structuring the reality or rather “the presentation of a selective view of reality” (McCracken 1993: 14).

Secondly, since pictures (often combined with the text) have a stronger rhetorical effect and much more persuasive power than words alone, the choice of pictorial metaphors for a magazine cover seems only natural, having in mind the basic property of metaphor to represent an abstract, hard-to-understand concept in terms of a more concrete and easier-to-understand concept. Namely, pictorial and multimodal metaphors in particular “require[s] the text’s recipient to construct a meaningful reading by processing verbal and visual elements together” (Koller 2009: 49), which boosts the persuasive power of the cover. In addition, as Forceville claims, pictorial metaphors have “a more sensual and emotive impact on viewers” (2008: 475) than those purely verbal. For that same reason, they may have “greater international appeal, since they do not (exclusively) rely on language codes” (Forceville 2008: 475).

Finally – and this is of special importance when it comes to pictorial metaphors depicting the Eurozone crisis on the covers of *The Economist* magazine – they may have a strong influence on the readership regarding their understanding of the crisis, since
the crisis, although most frequently metaphorically structured in words alone,\(^3\) may be better perceived by using powerful pictorial elements which pertain not only to its multifarious causes and effects but also the ideologies subtly hidden behind the metaphorical veil.

### 3. DATA COLLECTION AND METHODOLOGY

The data collection for our analysis consists of a sample of twelve covers of the weekly magazine *The Economist* published in the period 2010-2014 and collected from www.economist.com. The selected time frame more or less coincides with the timeline of the Eurozone crisis, which began in the late 2009, whereas the ending seems not to be in sight yet, despite various attempts to return the Eurozone countries to healthy and sustainable growth. *The Economist* magazine was chosen as the source of data for several reasons. Firstly, the majority of the selected covers combine visual and verbal manifestations of metaphors. More precisely, in each selected cover the euro currency, or its symbolic form, is explicitly present either pictorially (in the form of coins or banknotes) or verbally (the word “euro” appears in the text accompanying the picture), or both. All the covers profile the euro currency by way of suggestive pictures together with textual messages and symbols to describe the impact of the Eurozone crisis. Secondly, in all the covers the image manifests a metaphor, even though it is not always automatically related to the Eurozone crisis, but needs to be communicated by way of verbal/textual or contextual cues. Finally, all the covers display various roles of the verbal (the text) and the visual manifestations (the image). Hence, we are also interested to demonstrate that all the metaphors, monomodal and/or multimodal, pertaining to the Eurozone crisis as a target, exhibit some evaluative components, which stems from the metaphor role on the selected magazine covers – to alert readers and make them convert the depicted and perceived similarities between diverse concepts and the euro crisis into action.

Also, as expected, our classification of the covers, based on the identification of the source domain, has not been facilitated by the existence of a very complex cognitive apparatus. Quite on the contrary, since metaphors, metonymies, and image schemas of pictorial and/or verbal type frequently intertwine on the same cover and are all rife with rich cultural references. “As in verbal metaphors, it is connotations rather than denotations of source domains that get mapped in metaphors, and these may substantially differ from one (sub)cultural group to another” (Forceville 2009b: 29).

Therefore, in line with the method of analysis used in Bounegru and Forceville (2011: 213), who provide clear instructions for the identification of metaphors in multimodal discourse (more precisely, political cartoons pertaining to the global financial

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\(^3\) For the conceptualisation of the global financial crisis via the organism and the natural force metaphors, see Silaški & Đurović (2010) and Silaški & Đurović (2011) respectively. Also see Arrese (2015) for a comprehensive account of studies that investigated the role of conceptual metaphors for the structuring of the 2008 economic crisis.
4. ANALYSIS

A close analysis of the selected magazine covers by both authors has established that there are several domains which, by means of the euro currency pictorial and verbal modes of presentation, cognitively represent the Eurozone crisis: the LIQUID domain (represented here by two covers), the MOVEMENT domain (represented by two covers), the FIRE domain (represented by one cover), the FOOD domain (also represented by one cover), together with one example of the cover in which the euro is personified. Therefore, an analysis of a total of six covers will be offered and discussed in the paper, yet representing all domains respectively, together with one instance of personification.

4.1. THE LIQUID DOMAIN

The first cover presented in Figure 1 and belonging to the LIQUID domain was published in the 25th June 2011 issue of The Economist and tends to convey the impact of Greece’s default on the entire Eurozone. The visual metaphor depicts a businessman who is looking at the hole of a magnified kitchen sink. The image of the businessman rests on the metonymy BUSINESS SUIT/BRIEFCASE FOR BUSINESSMAN (via CLOTHES FOR THE PERSON relationship, resting on the DEFINING PROPERTY OF CATEGORY FOR CATEGORY cognitive principle). The sink is cognitively viewed as a CONTAINER via the IN-OUT relation, when states, such as indebtedness, financial crises, etc. are conceptualised as containers. On the other hand, the euro is pictorially represented with a banknote on the verge of falling into one of the kitchen sink holes, which together with the image of the kitchen sink adds to the identification of the money as a LIQUID metaphor. All this is pictorially reminiscent of the idiom “go down the drain”, meaning “being lost or wasted” and in the light of the verbal message “If Greece goes…”, accompanying the visual part of the cover, is suggestive of enormous bail-

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4 For a more detailed account of the front covers depicting the Eurozone crisis see Silaški & Đurović (2017).
outs to Greece regarded by many EU leaders as a waste of money. The size of the magnified sink as opposed to that of the businessman and more importantly, the implied huge amount of money that goes down the sink point to “an axiological clash” (Cortés de los Ríos 2010: 91), where the value of ‘big’ does not prototypically connote a positive but rather a negative value. The cover may perhaps not be rightly interpreted unless verbally cued, which makes it an example of multimodal metaphor. The half of the conditional sentence “If Greece goes...”, implying a very likely possibility and, when cued pictorially, making reference to ‘going down the drain’, underlines fear and panic on a looming Greek default and a likely situation that awaits other crisis-hit EU economies.

The second cover (dating from 30th August 2014) also belonging to the liquid domain depicts four people – Mrs Angela Merkel, Chancellor of Germany, Mr François Hollande, the then President of France, Mr Mateo Renzi, the then Prime Minister of Italy and Mr Mario Draghi, the President of the European Central Bank (ECB), metonymically standing for their office, i.e. in case of the first three – three biggest EU economies, situated in a paper boat made of the 20 euro banknote cognitively suggestive of the container image schema. They are navigating on the calm sea – another container, which when associated with the verbal mode “That sinking feeling (again)” connotes financial trouble, i.e. crisis, also viewed as a containment metaphor. The body posture of the four people is also very effective – Mr Draghi, in a three-quarter view, dressed as a security officer, his shirt clearly marked with ECB letters and the euro symbol, is trying to literally and figuratively bail-out the sinking boat. His action also underscores the futility and ineffectiveness of bail-outs in financial terms – no matter how hard he tries the activities of the ECB embodied in Mr Draghi appear to be just a drop in the ocean of crisis or debt. Nevertheless, he still manages to keep the sinking boat more or less afloat. Mr Renzi and Mr Holland are portrayed in profile view suggestive of their half-commitment to the grind work of financial discipline – this is pronounced in Mr Holland’s case with his hands closely clung to his body, indicating inactivity, but also stagnation in economic terms, while Mr Renzi is showing some signs of at least trying to do something by holding a melting ice-cream conveying the transitory nature of his endeavours and the prospects of Italian economy. Only Mrs Merkel’s portrait is en face which appears to emphasise the dominant role of the German economy. Her image also stresses a precarious position of the German economy, since it is in the same boat as the other two most
developed economies. This also indirectly sends the message to other EU members regarding their economic fate should the ECB measures prove insufficient.

4.2. THE MOVEMENT DOMAIN

The movement domain, frequently utilised as the source domain that provides a rich knowledge structure for understanding complex economic phenomena, is represented in our data collection with four covers, out of which two will be presented and discussed here.

The first cover in this category (Figure 3) dates from 5th November 2011 and depicts Parthenon as a metonym for Greece. In the light of the target concept, place (Greece) FOR event (the Eurozone crisis) metonymy, the cover would hardly be classified as a multimodal metaphor unless integrated with the verbal modality “Greece” with all three letters ‘e’ from the word being substituted with the euro symbol, which also stands in a metonymical relation to the EU and the Eurozone countries. Cognitively speaking, the cover, on the one hand, conveys the idea of the verticality schema and the bad is down metaphor; on the other hand, the image of the euro in a steep fall through the air (the movement schema) connotes the great speed and imminence of fall, thus underscoring the disastrous effects of the devaluation of the euro on the Greek economy in the light of the possibility of Greece leaving the Eurozone and abandoning the euro. The cover conveys the following message: if Greece, i.e. Greek economy, visually cued as Parthenon, goes down, which is in turn cued by the euro symbol falling through the air, this would have serious repercussions for the rest of the Eurozone and Europe in general. The verbo-pictorial metaphor hinges on the notion that “very rapid changes are typically conceptualised with reference to ways of moving in the air, i.e. with the greatest of ease” (Charteris-Black 2004: 166), which is rooted in our knowledge and physical experience that there is very little resistance to movement in the air.

Figure 3.

Figure 4.
A visual solution similar to the previous cover is exploited on the second cover belonging to the movement domain dating from the 28\textsuperscript{th} July 2012 issue of \textit{The Economist} (Figure 4), this time pertaining to a zoomorphised pictorial representation of Spain and its financial troubles, together with that of the caption “Spain”. Spain is pictorially represented as a bull, branded with the euro symbol, and stuck by coloured barbed sticks on its neck and flanks, connoting Spain in great financial woes. If we assume that the caption is not necessary for the identification of the source and the target, then this cover qualifies as a monomodal metaphor. However, unlike the previous cover where the effects of the EU financial crisis are portrayed by the euro symbols rapidly falling off the word “Greece” marking this cover as multimodal metaphor, here the letter “S” starts to fall through the air (a combination of the two image schemas – \textsc{verticality} and \textsc{movement}). Thus, when the caption is accounted for, the metaphor “verges towards the \textsc{verbo-pictorial} variety” (Bounegru & Forceville 2011: 215). The intensity of the trouble is reiterated by the image of the bull branded by the euro symbol on its body, which should indicate that the financial fall of Spain via the letter S standing for Spain would lead to the fall of the entire Eurozone, and by the verbal remainder “pain”, which unequivocally shows what Spain and other Eurozone countries will be left with if Spain falls, literally and metaphorically. The use of similar visual solutions by means of the selected cognitive patterns, \textsc{verticality} and \textsc{movement} image schemas, in both covers, pinpoints the intention of the metaphor creators to underline that Spain’s financial situation is just as threatening as that of Greece.

4.3. THE FIRE DOMAIN

The 19\textsuperscript{th} May 2012 cover of \textit{The Economist} (Figure 5) belongs to the \textsc{fire} domain and focuses on the possibility of Greece’s departure from the Eurozone and the destructive impact it may produce. The metaphor with the \textsc{fire} source domain depicts a runner clad in what represents the Greek flag and holding the ignited torch as a symbol of the Olympic games. Another visual metaphor is profiled by the 20-euro note, whereas the striking difference in size between the two visual representations – the euro banknote (metonymy for the EU) and the runner (metonymy for Greece and its economy), and more importantly, the image of a fire set by the runner and threatening to burn down the whole euro banknote connotes by means of a rich mental imagery the catastrophic consequences that the potential exit of small
Greece would have for the big Eurozone countries and their economies. Hence the whole image of fire catching the 20-euro banknote, i.e. the precariousness of the situation needs to be emphasised by the verbal modality “The Greek run”, the noun ‘run’ used ambiguously as not only the running of a torch holder and the departure of Greece from the Eurozone. It also refers to the flight of the Eurozone from Greece so as to prevent total destruction of the euro and the idea of monetary unity, which is stressed by showing the reverse of the 20-euro banknote depicting bridges which are in an imminent danger of being burnt down.

4.4. THE FOOD DOMAIN

The cover dating from 17th April 2010 (Figure 6) is classified as the one belonging to the food domain and depicts a digitally manipulated photo of Socrates’ bust. The cover renders the money is food metaphor, profiled by Socrates’ mouth wide open and full of the euro notes suggestive of the enormous amount of money poured into Greece to overcome the impact of the crisis as well as the way Socrates allegedly died – by drinking a cup of poison hemlock. Bulging eyes of the bust with the mouth filled with the euro banknotes together with the caption “Three years to save the euro” underscore the need for “nourishing” the “hunger-weary” Greek economy with money metaphorically portrayed as food so as to sustain economic recovery (which also renders the lack of money is a lack of food metaphor). Yet, the caption with the reference to short-termism of the measure is at best the one for buying time, which is echoed in the verbal metaphor on the plate with inscription “Greek bust” – a pun on ‘go bust’ – and the following text “Please give generously to support this exhibit – plus Spain, Italy, Portugal, and Europe’s banks…”. Hence excessive rescue or bail-out funds, verbally supported by the verb ‘save’ from the caption, are viewed as the ways of salvaging starved Eurozone economies, visually propped by Greece via Socrates and his mouth full of money. However, the pun “Greek bust” and the three dots at the end of the text on the plate should help the reader envisage the doom of the other EU economies and institutions. It should also underline the futility of excessive bail-out funds which, as both verbal and visual modalities imply, may result in economic “suffocation” and the possible destruction of the Eurozone. Nevertheless, making an abstract entity – the Greek economy – anthropomorphic and conceptualising the euro via the structural money is food metaphor facilitates understanding of and coping with the crisis because “the abstract is made tangible...
and given meaning through the use of conventional knowledge about the existence and behaviour of living things” (Charteris-Black 2000: 158-159).

4.5. PERSONIFICATION

Finally, in the last cover (dating 4th December 2010), presented in Figure 7, the euro is personified. The cover shows the man that has a 1-euro coin instead of the head. The man is trying to commit suicide, which, linked with the caption “Don’t do it” and a more interpretable verbal cue “What breaking up the euro would mean” gives rise to the KILLING THE EURO IS KILLING THE EU metaphor. The metaphor rests on mapping our knowledge of suicide as carried out as a result of despair and other stress factors onto the Eurozone crisis and our knowledge that the EU leaders and officials are contemplating the ensuing consequences of abandoning the euro in spite of several attempts to save the troubled economies (via excessive bail-out funds). The verbal message “Don’t do it”, helped by the “What breaking up the euro would mean” marks the course of action – it is an urgent plea for Europe’s leaders to take any possible measure to avert this fatal scenario. This, however, also implies that the EU leaders themselves are the ones who by opting to let markets correct themselves or by pumping money into weak economies, have provoked the whole situation and brought the EU economy on the verge of break-up, figuratively represented as an attempted suicide. The whole cover also underscores the impression that the EU leaders have so far reacted by the implementation of ineffective measures to prevent “suicide”, such as semi-prepared rescue plans to buy time, which is why the euro crisis has reached the critical phase.

5. DISCUSSION

The above multimodal analysis of the magazine covers inevitably entails an attempt to detect some of the evaluative components rendered from the selected multimodal representations. Overall, given the common denominator, which stems from the implied meaning of the selected covers – warning about the impending danger of dissolving the monetary union and abandoning the euro, all the above metaphors can be labelled destruction metaphors (Bickes, Otten & Weymann 2014: 429), whose primary pragmatic function is to warn readers and spread fear among them. Furthermore, “[i]n a state of anxiety, the reader is more likely to accept and approve the de-
terminated rescue measures of the government. In a scenario in which the Eurozone is about to collapse, all action taken seems to be justified to the reader” (Bickes, Otten & Weymann 2014: 429-430). Anxiety and fear, as our analysis shows, are communicated by the complex verbo-pictorial cognitive mechanisms, which are always encoded in a visual mode and sometimes in a verbal mode as well. On the basis of our analysis it may be said that the spatial concepts, those of verticality, movement, and container, together with the structural metaphors, are more prevalent in the visual than the verbal mode, which is in line with Forceville and Urios-Aparisi’s (2009: 13) conclusion that “[n]on-verbal and multimodal metaphors may make salient certain aspects of conceptual metaphors that are not, or not as clearly, expressible in their verbal manifestations.”

In addition, metonymy is an equally important cognitive device for communicating the meaning of the covers, and many metaphors mentioned above are actually metonymy-based. Metonymies are mainly represented visually, less frequently verbally. As expected, many visual representations are deeply culturally entrenched, which, in view of the target domain – the Eurozone crisis, have strong evaluative character. For instance, the majority of covers make reference to Greece via symbols as Parthenon, Socrates, the Olympic games, all linked with the ancient Greece. It all seems to convey the message that Greece is the originator and cause of the EU’s financial woes, with the underlying message that the country which is the cornerstone of modern Europe and the EU is at the same time the one that is heading towards breaking up the euro as one of the most important symbols of the European identity. Hence the media representation of multimodal metaphors trades on the capacity of metaphors to help to form opinions and provide a window on “the beliefs, attitudes and feelings of the discourse community in which they [metaphors] occur” (Charteris-Black 2004: 13).

6. CONCLUSION

Our aim in this paper was to analyse how visual and/or verbal modalities of metaphor, metonymy and image schemas used on the front covers of The Economist magazine contribute to the structuring of the concept of the European sovereign debt crisis in order to make it more fathomable to the readership. We have shown that the interplay of the selected cognitive instruments helps to convey the Eurozone crisis and to buttress its negative character. The results of our analysis may further point out the strong persuasive power of multimodal cognitive tools and their ability to influence readers and convey desired messages to the target audience. We have hopefully offered evidence for the potential of metaphor, be it verbal, pictorial or multimodal, “to construct representations of the world that impinge on human understanding of various aspects of social and political life and for its vital role in forming and influencing human beliefs, attitudes and action.” (Charteris-Black 2004: 28).
ACKNOWLEDGEMENTS

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REFERENCES


BUSINESS
MANAGEMENT
STRATEGIC FRAMEWORK FOR THE SERBIAN RETAIL AND WHOLESALE SECTOR DEVELOPMENT

Goran Petković*, Stipe Lovreta**

Abstract: Distributive trade is one of the most important sectors of Serbian economy, participating with 10-11% in GDP and over 17% in total employment. Contribution of trade to national GDP increased during economic growth and fell during recession. However, distributive trade is changing rapidly, strongly influencing at the same time other industries, particularly manufacturing. Serbian retailing in the period 2011-2015 is faced with sharp fall in the number of stores (37.2%), fall in the number of employees (38.6%) along with the increase of turnover (3.3%). Concentration and productivity are increasing. That is why it is important to understand key trends in trade development in some markets, and to compare them with experiences from other countries. Serbian distributive trade is lagging behind similar sectors in more developed countries with 0.2% participation of big retail companies in the total number of retailers and 24% in total retail turnover in Serbia. Serbian marketing channels show some specific trends in development such as big and increasing number of wholesalers comparing with the number of retailers (3.65 : 1), which is entirely opposite from the typical situation. Similarly, market policy is still behind the experiences of developed countries. As the key areas of state market policy, five areas were particularly in focus of the strategic document, adopted by the Government. First, protection of the competition directed attention not only to the general concentration, but much more to the retail development in underdeveloped regions, development of e-commerce and support to trade sector through education. Second, consumer protection should be improved through further specialization of individual consumer protection organizations accompanied by better coordination, which is, at the time being, rather poor. Third, support to the SME sector appeared to be necessary in order to protect competition, but also to support supply of the regions and consumers that big wholesalers and retailers are not interested in. Fourth, further legal framework improvements are needed, especially in the process of harmonization with EU norms on consumer protection, advertising and commodity markets. Fifth, IT development in the industry is at a low level, particularly concerning public services. In this area, improvements are needed in order to enable better definition of different relevant markets for the sake of concentration monitoring, to enable insight into market prices and to enable potential development of GIS.

Key words: retail, distributive trade, market policy, consumer protection, concentration

JEL classification: L81, L52

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INTRODUCTION

The retail sector has an important role in economic growth and development and is recognized in official documents of EU: “Any developments in the retail sector thus automatically have knock-on effects in other economic sectors and on their respective actors.”[1]. There is a further statement that “Retail services are a key building block of the European Internal Market since they enable consumers to get access to products from other member States.” [2]. Retail and wholesale sectors are key players in the EU economy in many dimensions: as a major employer, these sectors employ more than 29 mil. people and participate with 9.6% of value added in the EU economy [3]. Contribution of retail and wholesale sectors is important also in other, specific dimensions of development policy: employment of youth, environment for small businesses and entrepreneurs, and even social responsibility. All these dimensions justify close attention of EU institutions to internal market flows, fair competition and new initiatives influencing distributive trade and respective stakeholders.

The Serbian government followed similar logic when it decided to review and reinforce its strategic document on distributive trade development. The former strategic document was adopted by the Government of Serbia and published in 2009 [4]. This document followed some basic principles (free market competition, consumer protection) and delineated basic directions of growth (new format development, support to SME sector). In the introduction of the new strategic document, there was an explanation as to why it was justified not to make the new strategy but to revise the existing one. Number of recommendations from the former strategy were followed but not completed: the most important one, the principle of free trade is repeatedly marred by the actions of restricting prices or trading margins [5]. Furthermore, it was recognized that the main orientation of the previous strategy was correct and needed to be empowered and explained in more details.

The new strategic document had been completed by the end of 2015 but had been waiting to be adopted by the new Government, after parliamentary elections, for almost a whole year. This document contains analysis of the situation, statistical projections and program of acting in the coming period, but is also supported by a detailed action plan. The Action Plan is presented in the form of a table with columns describing each particular measure of the trade policy, accompanied by major stakeholder(s), time frame for implementation and foreseen impact on the economy (or on a state budget). Original proposal contained an estimate of the budget necessary to implement each measure, but this column disappeared in the process of adoption.

In the following sections of this paper, at the very beginning, a digest of the environment analysis will be presented in order to serve as an introduction for the proposed measures. Then, five groups of measures will be presented and commented.
TRADE ENVIRONMENT IN SERBIA

The development of trade retail and wholesale capacities in the period between 2009 and 2015 was largely spontaneous, but followed directions that were otherwise foreseen in the former strategic document. Processes of modernization, concentration, digitalization and internationalization in the development of trade were intensive. These trends are also manifested in developed market economies, but at a much higher level of development. In the European Union, evident processes of horizontal and vertical concentration of trade, especially retail, were manifested.

Projections of the growth in the Serbian retail and wholesale sectors in the strategic documents were developed in three scenarios: favorable, neutral and unfavorable. All projections were anchored to the growth of GDP and, connected with it, almost all projections were positive. However, reading these projections two years later, it is possible to understand that these projections, although indicated, could not completely foresee the development of Serbian internal market and trade environment.

Table 1: Indicators of trade development in Serbia, 2002-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Employees in retail and wholesale sector, total</th>
<th>Gross value added in mil. RSD</th>
<th>Rate of real gross value added growth, %***</th>
<th>Number of stores in Serbia</th>
<th>Rate of stores growth %***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>324,796</td>
<td>54,413</td>
<td>22.6</td>
<td>95,996</td>
<td>11.2</td>
</tr>
<tr>
<td>2003</td>
<td>318,033</td>
<td>68,960.1</td>
<td>16.4</td>
<td>95,800</td>
<td>-0.2</td>
</tr>
<tr>
<td>2004</td>
<td>362,241</td>
<td>96,600.1</td>
<td>19.3</td>
<td>103,657</td>
<td>8.2</td>
</tr>
<tr>
<td>2005</td>
<td>374,830</td>
<td>155,589</td>
<td>36.6</td>
<td>109,212</td>
<td>5.4</td>
</tr>
<tr>
<td>2006</td>
<td>332,605</td>
<td>184,046.3</td>
<td>8.6</td>
<td>105,061</td>
<td>-3.8</td>
</tr>
<tr>
<td>2007</td>
<td>366,060</td>
<td>220,085.5</td>
<td>14.4</td>
<td>99,362</td>
<td>-5.4</td>
</tr>
<tr>
<td>2008</td>
<td>349,531</td>
<td>258,547.3</td>
<td>3.8</td>
<td>103,600</td>
<td>4.3</td>
</tr>
<tr>
<td>2009</td>
<td>364,651</td>
<td>262,239.7</td>
<td>-8.2</td>
<td>101,627</td>
<td>-1.9</td>
</tr>
<tr>
<td>2010</td>
<td>362,630</td>
<td>267,463.1</td>
<td>-3.2</td>
<td>96,918</td>
<td>-4.6</td>
</tr>
<tr>
<td>2011</td>
<td>346,629</td>
<td>300,049.5</td>
<td>0.6</td>
<td>96,963</td>
<td>0.0</td>
</tr>
<tr>
<td>2012</td>
<td>310,767</td>
<td>322,887.2</td>
<td>1.6</td>
<td>90,650</td>
<td>-6.5</td>
</tr>
<tr>
<td>2013</td>
<td>280,700</td>
<td>352,227</td>
<td>1.4</td>
<td>87,409</td>
<td>-3.6</td>
</tr>
<tr>
<td>2014*</td>
<td>278,500</td>
<td>354,000</td>
<td>-0.3</td>
<td>85,700</td>
<td>-2.0</td>
</tr>
<tr>
<td>2014</td>
<td>256,133</td>
<td>387,046.2</td>
<td>-</td>
<td>63,872</td>
<td>-26.9</td>
</tr>
<tr>
<td>2015</td>
<td>250,118</td>
<td>-</td>
<td>-</td>
<td>62,013</td>
<td>-2.9</td>
</tr>
<tr>
<td>2020**</td>
<td>277,000</td>
<td>375,240</td>
<td>-</td>
<td>78,800</td>
<td>-8.0</td>
</tr>
</tbody>
</table>

* Estimate for 2014
** Estimate for 2020
***Calculations made for the Serbian Trade Development Strategy
Source: Statistical Office of the Republic of Serbia and Serbian Trade Development Strategy
Projections made for trade sectors (retail and wholesale) predicted that gross added value would increase and that the number of employees would slightly decrease, assuming solid growth of the productivity. Also, a decrease in the number of stores was predicted as the consequence of concentration and already recorded influence of the big retailers and competitors.

However, such decline in the number of stores, which happened in 2014, could not be predicted using standard procedures of extrapolation. This was connected with rigorous fiscal measures and decline in buying power of big segments of Serbian society (pensioners, employees in the public sector). Dramatic decline in the number of stores was followed by notable decline in the number of employees. Furthermore, it is not possible to accurately assess the extent of the decline in the number of employees, particularly in the retail sector, bearing in mind that, especially in small shops, much larger number of undocumented workers were engaged. It is also interesting to confirm the rule revealed in the Strategy that growth of GDP again initiates more rapid growth of GDP and value added generated by trade sectors. Again, achieved value was over the projected one. Thus, although the direction of changes in the trade sector was outlined in the strategic document, intensity of changes in all monitored parameters was underestimated: added value increased more rapidly while number of employees and number of stores decreased also more rapidly than projected.

The main structural imbalance in Serbian trade was recognized as a strong predominance of wholesale in relation to the retail sector. Wholesale companies participated in gross value added of trade more than retailers, which is not the case in more developed market economies. While the number of employees in wholesale sector declined during the period of prosperity in the Serbian economy (2004-2007), it recovered quickly during the crisis, in spite of the constant reduction of employees in retail sector. Predictions made in the Trade Development Strategy foresaw further strengthening of the wholesale sector, manifested in the growth of turnover (1.1% annually average) with the growth of turnover per employee at the same rate, by the end of 2020 [6].
### Table 2: Structure of the trade in Serbia

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross value added – Trade*</th>
<th>GVA – Wholesale</th>
<th>GVA – Retail</th>
<th>Employees - Trade</th>
<th>Employees - Wholesale</th>
<th>Employees - Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>54,413.0</td>
<td>29,246.1</td>
<td>25,166.9</td>
<td>324,796</td>
<td>85,492</td>
<td>239,304</td>
</tr>
<tr>
<td>2003</td>
<td>68,960.1</td>
<td>38,106.0</td>
<td>30,854.1</td>
<td>318,033</td>
<td>94,917</td>
<td>223,116</td>
</tr>
<tr>
<td>2004</td>
<td>96,600.1</td>
<td>48,328.8</td>
<td>48,271.3</td>
<td>362,241</td>
<td>79,149</td>
<td>283,092</td>
</tr>
<tr>
<td>2005</td>
<td>155,589.0</td>
<td>67,830.6</td>
<td>87,758.4</td>
<td>374,830</td>
<td>75,582</td>
<td>299,248</td>
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<tr>
<td>2006</td>
<td>184,046.3</td>
<td>89,808.5</td>
<td>94,237.8</td>
<td>332,605</td>
<td>73,583</td>
<td>259,022</td>
</tr>
<tr>
<td>2007</td>
<td>220,085.5</td>
<td>124,647.6</td>
<td>95,437.9</td>
<td>366,060</td>
<td>77,051</td>
<td>289,009</td>
</tr>
<tr>
<td>2008</td>
<td>258,547.3</td>
<td>148,141.4</td>
<td>110,405.9</td>
<td>349,531</td>
<td>60,605</td>
<td>288,926</td>
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<tr>
<td>2009</td>
<td>262,239.7</td>
<td>147,389.5</td>
<td>114,850.2</td>
<td>364,651</td>
<td>63,227</td>
<td>301,424</td>
</tr>
<tr>
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<td>267,463.1</td>
<td>151,842.2</td>
<td>115,620.9</td>
<td>362,630</td>
<td>63,550</td>
<td>299,080</td>
</tr>
<tr>
<td>2011</td>
<td>300,049.5</td>
<td>178,347.1</td>
<td>121,702.4</td>
<td>346,629</td>
<td>86,081</td>
<td>260,548</td>
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<tr>
<td>2012</td>
<td>322,887.2</td>
<td>191,428.0</td>
<td>131,459.2</td>
<td>310,767</td>
<td>73,183</td>
<td>237,584</td>
</tr>
<tr>
<td>2013</td>
<td>352,227.0</td>
<td>198,958.4</td>
<td>153,268.6</td>
<td>280,700</td>
<td>73,400</td>
<td>207,300</td>
</tr>
<tr>
<td>2014*</td>
<td>354,000.0</td>
<td>201,100.0</td>
<td>152,900.0</td>
<td>278,500</td>
<td>73,500</td>
<td>205,000</td>
</tr>
</tbody>
</table>

* Estimate for 2014, in current prices

Source: Statistical Office of the Republic of Serbia and the Serbian Trade Development Strategy

Development of trade sectors, wholesale and retail, in the last two years confirmed projections made in the strategic document. Although for methodological reasons it was not possible to continue the former table, the next table, generated from the Statistical Office official website, outlines trends in the trade sector. These trends reveal still present misbalance between wholesale and retail sector, although the gap is closing. However, this change in decrease towards the wholesale compared to retail is very slow, as it was predicted. Data on turnover and number of enterprises in Serbian trade sectors in the last years, even after the strategic analysis, support this prediction.
Table 3: Structure of trade industry evolution, 2007-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Turnover, mil. RSD</th>
<th>Number of enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total trade</td>
<td>Trade of vehicles and spare parts</td>
</tr>
<tr>
<td>2007</td>
<td>1,916,714</td>
<td>160,633</td>
</tr>
<tr>
<td>2008</td>
<td>2,327,687</td>
<td>182,797</td>
</tr>
<tr>
<td>2009</td>
<td>2,198,194</td>
<td>147,275</td>
</tr>
<tr>
<td>2010</td>
<td>2,486,012</td>
<td>162,273</td>
</tr>
<tr>
<td>2011</td>
<td>2,784,400</td>
<td>160,392</td>
</tr>
<tr>
<td>2012</td>
<td>3,120,836</td>
<td>173,589</td>
</tr>
<tr>
<td>2013</td>
<td>3,014,988</td>
<td>164,275</td>
</tr>
<tr>
<td>2014</td>
<td>3,049,310</td>
<td>168,674</td>
</tr>
<tr>
<td>2015</td>
<td>3,170,948</td>
<td>200,195</td>
</tr>
</tbody>
</table>

Source: Statistical Office of the Republic of Serbia

Put together, dramatic contraction in the retail sector and still very strong position of the wholesale sector with some other inherited weaknesses of the Serbian trade make proposed areas of trade policy even more actual. In further sections, the main groups of proposed measures will be elaborated.

CONCENTRATION AND COMPETITION

The structure of trade business entities in the Republic of Serbia, observing only the enterprises, could trigger off erroneous conclusions about highly developed concentration, given the participation of microenterprises of all 90.37% in 2013. However, when looking at the total share of microenterprises and entrepreneurs in the total number of trading companies (11.86% + 86.88% = 98.74%), it is clear that the concentration in that year was still in its infancy. Concentration ratio (CR) is not considered to be a confident indicator of concentration, having in mind numerous limitations, among which the important one relates to the number of companies included in the relevant market [7]. It is considered that if the value of CR4 is greater than 60%, it is a strong oligopoly, while the value of CR4 ranging between 40% and 60% represents an oligopoly, and the value below 40% means the competition [8].
In the only comprehensive public document on this issue, Pešić calculated, for the year 2012, that in Serbian food retailing, values of concentration ratio were: C4=65.12% and C4=69.14% [9]. In that year, the market was dominated by three retailers (Delhaize, Idea and Mercator), followed by DIS, which generated one half of the Mercator turnover, and Univerexport, which generated something more than a half of DIS turnover. After the merger of Idea and Mercator (in a new Mercator S company), there was no such detailed study. However, some estimates made by the Serbian Chamber of Commerce indicate that the order is Mercator S (28%), Delhaize (27%), DTL (9.2%), DIS (6%) and Aman (4.2%). Again, concentration ratios are similar and call for some action.

Commission for Protection of Competition is an independent regulatory body in charge of monitoring concentration, approving M&A activities and prescribing measures in order to protect competition on the Serbian market. Commission was active during acquisition of the Mercator Roda Company, realized by Croatian Agrokor, company that was running the Serbian Idea wholesale and retail business. However, no regular sectoral studies and other information infrastructure needed for this activity are provided, so the Commission is forced to develop its own analytical infrastructure.

Members of the Commission were very active during the process of drafting a new strategic document on the Serbian trade development. That is why four very simple and understandable measures were proposed. First, providing support to an active policy in order to achieve spatially balanced development of trade and analysis of the situation as the first step in obtaining data on spatial trade development. Second, active support to the development of trade capacities in underdeveloped areas, based on data collected in the first step. This measure is important to provide indiscriminate standard of living to the population, particularly in rural areas, but also to enable collection of different products from individual producers. The third measure relates to supporting e-commerce development, particularly in the areas of education and awareness building. The fourth measure is directed again to the research in order to provide data about vertical relations in marketing channels. This area of competition is usually neglected, and the first reason for that lies in missing information and data on these relationships.

**SMALL AND MICRO BUSINESS DEVELOPMENT**

Trade has been traditionally an entrepreneurial industry with high proportion of small, often family businesses. On the other side, these kinds of businesses are highly vulnerable in direct confrontation with big companies, usually attracting some kind of public institutions’ attention. Micro and small commercial enterprises in Serbia maintained in 2013 a relatively high participation in the number of enterprises (98.7%), and even in the number of employees (59.7%), knowing that small entities
are less productive and mainly focused on personal service. These entities participated in total turnover with 52.5%, playing a significant role on the market.

However, trends of concentration and decrease in the number of companies were recognized in the Strategy, and confirmed by data on a number of enterprises in the following years (Table 3). Similar conclusion can be derived looking at data on entrepreneurs and enterprises in trade industry for the period 2010-2014.

### Table 4: Trade entrepreneurs and enterprises, 2010-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Entrepreneurs</th>
<th>Microenterprises</th>
<th>Small enterprises</th>
<th>Medium enterprises</th>
<th>Large enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>2010</td>
<td>64,844</td>
<td>30,575</td>
<td>2,734</td>
<td>397</td>
<td>68</td>
</tr>
<tr>
<td>2011</td>
<td>62,986</td>
<td>29,990</td>
<td>2,741</td>
<td>376</td>
<td>67</td>
</tr>
<tr>
<td>2012</td>
<td>63,404</td>
<td>29,505</td>
<td>2,739</td>
<td>353</td>
<td>66</td>
</tr>
<tr>
<td>2013</td>
<td>61,609</td>
<td>30,000</td>
<td>2,639</td>
<td>357</td>
<td>64</td>
</tr>
<tr>
<td>2014</td>
<td>64,126</td>
<td>29,597</td>
<td>2,611</td>
<td>359</td>
<td>66</td>
</tr>
</tbody>
</table>

Source: [10]

From the data it is obvious that the weakest market actors in the trade industry are in constant contraction, while only big companies are expanding. Market competition works against even medium-sized companies. However, while medium-sized companies under pressure are engaged in M&A processes, entrepreneurs and microenterprises just close the business. That is why in many countries government supports this section of businesses in order to equip them with necessary knowledge, tools and service support, so that they can compete with big businesses.

List of proposed measures in the Action Plan is comprehensive and organized in four major groups of measures. The first broad group of measures relates to the improvement of business environment for micro and small trade actors. Single eContact Service is the most important step in this environment improvement, and is to be financed through EU funds in 2017. Complementary measures in this group are soft but very important: guides for trading businesses and advisory activity of the National Council for Trade Development. The second set of activities is oriented towards protection of small businesses, mainly through education workshops and comparative analysis of the regional markets in order to learn the best legal practices implemented. The third group of measures relates to the development of cooperation and value chain building. The most attractive in this set is the proposed event – “Meet Your Customer”, designed to support gathering of small businesses and exchange ide-
as and development of contacts, which for each of them individually may be too expensive and unattainable. The most pragmatic in the second set of measures might be the development of buying alliances, which might be supported through education, legal support and other active measures helping simultaneously to the small retailers, distributors and manufacturers. The final, fourth group of measures in this section covers the support to innovations among entrepreneurs, particularly to those that are export-oriented providing to them specialized export portal with the information about demand, partners, potential business opportunities, etc.

**LEGAL FRAMEWORK**

Consumer protection in Serbia is the one area that seems to be highly developed and regulated. History of modern documents related to this subject started with the National Program for Consumer Protection from 2007 to 2012, followed by a similar strategic document, Consumer Protection Strategy from 2013-2018[11]. Implementation of these strategic documents generated the Law on Consumer Protection, adopted by the National Assembly, first in 2010 and revised in 2014 [12]. According to this law, a National Council for Consumer Protection is a working body of the Government of the Republic of Serbia with an important advisory role in strengthening the consumer protection system. As an operational body, a special Consumer Protection Council was formed, composed of representatives of all associations or alliances entered into the register of associations and alliances, established and maintained by the Ministry of Trade, Tourism and Telecommunications. Network of organizations for consumer protection seems to be very developed (27 organizations) supported by 8 licensed intermediaries for amicable settlement. Besides capacity development, in the last period, significant effort was invested in enhancing the procedure for the settlement of consumer disputes that are specifically regulated by the Law on Civil Procedure.

However, besides a lot of efforts and progress achieved, consumer protection still is not at a desired level. Last available research in this area from 2012 showed that although 2/3 of surveyed citizens expressed the will to complain, only 17.8% actually did it in some moment, and only 11.3% tried to collect some information on consumer protection [13]. Even with some improvement in the level of awareness, knowledge on specific consumer protection procedures and institutions still needs to be further developed.

Other areas of legal framework are still not so regulated, as it is the case with competition and consumer protection. That is why there is a proposal for the improvement of the regulation on e-commerce that needs to be further harmonized with EU legal framework and with constant innovations in this area. Also, two new laws are proposed, one regulating commodity exchange and the other regulating the market of different services. Finally, it was proposed to the Government of Serbia to establish
the National Council for Trade Development, as the advisory body capable of analyzing trends and different market situations and providing professional opinion to policy makers. These kinds of counseling bodies work in different areas and are useful depending on the will of policy makers to engage them.

**IT FOUNDATIONS**

The longest list of eight proposed measures among four groups in the Action Plan is oriented towards meeting an urgent need to have data and information for better understanding of the market needed to undertake correct activities. Serbian public statistics suffered for a long period from economic depression and decrease of budget. In the meantime, private statistical institutions developed, presenting privately ordered data to the clients. However, these data are neither public, nor comprehensive having in mind that many sectors of the economy are in crisis, not willing to invest in data collection.

The first measure in this set was to update existing data, presented on the website of the ministry in charge of trade, which was completed during the process of the Strategy adoption by the Government of Serbia, with data ending in 2015. The second, still not realized activity, was to analyze all data, already collected by different public institutions, which may, in the third step, be grouped, combined and presented in one place. All three proposed measures dealt with the data already collected, but not properly combined and presented.

The fourth measure is actually the beginning of the new IT system – development of the new IT architecture. After design of the whole system, in the fifth step, according to the project, new registries and databases may be introduced and the existing ones improved. The sixth measure is about the next step, i.e. the implementation of new or revised databases through public procurement procedure. It is planned to introduce a complex methodology on data collection and to provide the first development of the so-called Central Trade Database (CTDB) on different dimensions of trade and market. Simultaneously with it, the seventh step should be implemented, which is a public tender that the ministry in charge of trade should perform in order to procure functionality for business reporting. In this way, CTDB will be used from the beginning and serve as the decision making platform for operational business and investments, but also for better understanding of the market and undertaking of reasonable actions in the area of trade and market policy.

The final measure in this section relates to the development of the price observatory as the public portal for the price monitoring and comparison. There are some private initiatives in this respect which are not comprehensive and are limited only to the part of the fast moving consumer goods (FMCG) sector and only on the Belgrade market.¹ This activity is known in some other countries like Greece,² providing in-

¹ http://cenoteka.rs/
² http://www.e-prices.gr/search
formation to the citizens but also to the policy makers, both in companies and in the regulatory institutions. In some other countries, this practice has been discontinued, like in the case of Spain, in April, 2009.3 The similar termination of the price observatory activities happened in Mauritius in 2015.4 However, it served for a certain period of time to stabilize the market, which is exactly what is needed on the Serbian market. These kinds of portals are active in different environments like France5 or EU market, when main agricultural products, such as meat and milk are in question.6 This portal may be developed even earlier than the whole system based on CTDB, preparing the way to absorb its price database later on in the central one.

CONCLUSION

The new Trade Development Strategy of the Republic of Serbia until year 2020 started from the initial position that the former strategy correctly predicted the direction of development trends in the Serbian trade industry (concentration, decrease in the number of companies, employment, number of stores, and increase of turnover and added value). However, the intensity of these changes was, in the first two years after projection, far beyond the projected parameters. The most dramatic move happened in 2014, when 25.5% of stores in Serbia were closed in just one year. In cumulative, it is more than 36% of stores closed in a five-year period 2011-2015.

Such intensive changes in trade environment require strong implementation measures and continuous review of the development parameters in order to align with the projected values. However, although some implementation measures have been already taken, such as update of statistics, in some urgent areas some second thoughts and indecision are still present. Particularly urgent areas seem to be small and micro business environment development, as well as the IT foundations development. The first area is important because of the dramatic mortality of micro and small businesses in the trade sectors. As a result, vast areas in underdeveloped regions stay without relevant retail and wholesale services while great number of self-employed entrepreneurs are kicked out of business. These businesses in underdeveloped areas often cannot survive only on market demand, which is weak and deserve to be considered as the “communal” service to the population.

The digital economy opens a completely new window towards this inclusion of the population, as it was discussed on the example of the financial inclusion at Kopaonik Business Forum (KBF) 2017. This is one of the main reasons why it is necessary to give a priority to the implementation of the adopted Action Plan, as the annex to the

4 http://commerce.govmu.org/English/Price%20Observatory/Pages/default.aspx
5 http://www.price-observatory.com/en/
6 http://ec.europa.eu/agriculture/market-observatory/
adopted Strategy. The Action Plan contains descriptions of the measures proposed as well as the time framework and institution in charge. Unfortunately, some fields were excluded from this document in the process of adoption (other institutions besides ministry in charge of trade, which should be engaged in some complementary activities, as well as the initial proposal of the budget for each activity). With these fields included, it will probably be easier to synchronize all the stakeholders and the government (especially the Ministry of Finance). However, even without these details, the adopted Action Plan encompasses main steps and their sequence that need to be undertaken in order to cope with significant changes in trade environment.

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**SHOPPER-CENTRIC RETAILING – NEW GROWTH STRATEGY**

Zoran Bogetić*

**Abstract**  There have been significant changes in the retailing industry. Trade revolution has accelerated these changes, especially in the segment of retail concentration, information technology usage and dominance in marketing channels. Instead of a fragmented retail landscape, today we have augmented retailers which use information technology in order to gain more information about their shoppers. Retailers adapt their offerings to shoppers in order to become more competitive. Some retailers are focused on pricing issues and they try to offer the lowest prices. A large number of discount retailers made the competition in this segment very fierce. Other retailers aim to offer a more competitive assortment. There are numerous retail strategies. In addition, big data phenomenon enabled retailers to focus more on their customers and forced them to improve their data collecting efforts.

Shopper is in the focus of retailers. This fact redefines strategies and tactics of all participants in the marketing channels because retailers have the power to influence all other channel members. A new business process paradigm is on the rise. It influences all the business functions of a retail enterprise. A new concept of category management is becoming more dominant. This concept relativizes substitutability of the offered assortment in favor of the complementarity of purchased items.

The focus is on simultaneous management of complementary categories, localized merchandising and overall store brand. The new retail process is based on new technologies, information and organizational solutions. In this paper, the strategic retail process focused on the shopper will be defined, as well as conditions of its functioning. It is very important for retailers to find new sources of growth. Stagnation is not an option in modern retailing. Competitors are growing and growth gaps could cause significant changes in the power distribution in marketing channels. That is the reason why retailers place their focus on shopper marketing as one of the most perspective sources of growth in modern marketing channels.

In addition, the perspective of shopper marketing in marketing channels will be addressed in this paper as well.

**Keywords:** retailing, shopper, shopper-centric retailing, category management, marketing channels.

**JEL Classification:** L81, L86, M31

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**1. INTRODUCTION**

Power relations in marketing channels traditionally determine which business practices will be favored and whose interests will be superior. This has also been the case with marketing theory and practice. The initial stage of marketing affirmation is linked to the period of industrial revolution, when manufacturing companies gained in significance due to capital concentration and the growing interest and investments in the development of corresponding business practices. In this context, during the

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period between two world wars, when violent changes and crises tested the quality of contemporary business solutions, the marketing concept was capitalized on. Owing to the marketing orientation, many manufacturers, alongside many other companies, survived the ordeal and prospered due to their market behavior instincts.

The initial marketing concept, nowadays well-established, naturally affirmed the interest of manufacturers that the product consumers should be in the focus of analyses and derived solutions. This emphasis gained momentum with the expansion of manufacturing capacities and the oncoming tide of various products seeking their way to customers. In marketing channels, consumeristic business strategies gained in significance, both on the supply and the demand side. The affirmation of manufacturers’ interests was apparent, which had significant implications for the retailers’ business practices. Consumer, naturally being in the focus of producers, became the subject of broad practical and theoretical studying.

Following capital concentration in retail and the retail organizations’ capitalization based on the growing IT potential, the balance of power in the marketing channels has drastically changed. Therefore we are now witnessing the domination of retail and its interests (Lovreta et al., 2013). Multiple evidence backing this claim can be found in everyday life, national statistics and systematized findings of scientists, researchers and consultants. It is apparent that retail has become the economic powerhouse, controlling vast quantities of capital and a critical resource – shelf space. Recent phenomena of retailer-dominated marketing channels are the development of theory and practices of trade management and marketing and business concepts and solutions suited to modern commercial challenges. Supplier organizations’ adaptions to changes in retail business conduct, with the purpose of performance increase and business sustainability, are also evident. Partnering business practices are being developed intensively (Petković & Bogetić, 2014).

Shopper, as a natural retailer’s focus in new conditions of relations in marketing channels, is becoming ever more important. In marketing channels, more than ever, attention is given to the integrated concept of point-of-sale shopping experience (Bogetić & Petković, 2014). The difference between consumer and shopper, as well as the differentiation between shoppers in-store and out-store, is becoming clearer (Pincott, 2012). Partnership strategies and shopper marketing are being developed with significant effects (Hoyt & Swift, 2014), leading to the corresponding investments expansion (Angrisani, 2015).

Opinions differ about the adequate shopper marketing scope. On one hand, shopper marketing is regarded as a point-of-sale sales stimulus (Stahlberg & Ville, 2012), whereas another point of view emphasizes a comprehensive customer service, anytime, anywhere (Silveira & Marreiros, 2014). Enveloped, comprehensive customer handling, engaging all the means in every channel at the integrated demand level also has many advocates (Shankar et al., 2011).
Since shoppers remember all the promises (The science of shopper insights, 2015), activity balance in all stages of the shopping process is necessary (Wyner, 2011). In order to be effective, shopper marketing must be an integrated marketing activity (Fam et al., 2011). This attitude reflects an entire spectrum of informational activities, including growing capacities of the widely present mobile devices (Shankar & Balasubramanian, 2009).

The most important aspect of shopper marketing is developing and using a profound shopper insight (Shopper marketing best practices: A collaborative model for retailers and manufacturers, 2010). Customers in different shopping situations must be understood, as well as the relevant potential influencers (Shankar, 2011). In this respect, advances and new technological capabilities pave the way for a new approach to customer service (Egol et al., 2013).

Shopper marketing includes a wide range of innovations in retail and supplier business conduct. It is an innovative sale-increasing approach in which business efficiency is increased by directly influencing shopping decisions, but also customer satisfaction. Shopping marketing is also a partnership initiative which touches various spheres of retail and wholesale business. Seemingly simple sales stimulation tools are in fact a part of a much wider business-focus shift of retail organizations toward a natural focus on the shopper. Thus, there is a need for understanding the topic of shopper-centric retail development.

The given task defines the structure of this qualitative research based on secondary sources (Marshal & Rossman, 1995), starting from the goal of understanding shopper-centric retailing, through the prism of innovation and standardization of actual category management concepts. It is necessary to provide arguments for shifting business focus from consumer toward shopper in the retail stores. Finally, the potential scope of the shopper-centric retail strategy must be analyzed, as well as the direction of redefining category management business process with the aim of improving the holistically observed shopper experience in retail stores (Gugliemi, 2000). The task of developing new knowledge and perspectives (Goldberger, 1990) imposed the implementation of the given research approach.

2. SHOPPER IN THE FOCUS OF RETAIL STRATEGY

Historically speaking, retailers have always valorized their market position. This was the case during the period of manufacturer-dominated marketing channels, which naturally imposed their focus on their products’ consumers. This was also the case with innovation and standardization of category management.

Category management is a business innovation which by all odds appeared in 1985. Then, the supermarket chain Schnucks came to a solution regarding shelf space optimization through a consulting arrangement with Harris (Raskin, 2013). Respect
for demand at the level of product categories which was then recognized was a pioneeering step forward toward a concept which is nowadays recognized as category management.

Other authors point out that the concept emerged in the 1970s, but under a different name and content compared to today’s understanding of the concept (Van der Ster, 1993). The first serious category management concept signals, according to this opinion, can be found in the early innovations in trade management and marketing. Retailers’ defense against aggressive producers by using innovations in retail marketing is identified as a significant forerunner of the contemporary definition of the category management concept (Category Management Processes Improvement Group & The Partnering Group, Inc., 2000). Category management treats a product category as a business unit for which a specific business plan is developed and implemented (Bogetić, 2007). The customer is in the focus of the supply-chain integrating strategy (Bogetić et al., 2015), all in the service of more efficient and effective business solutions. The goal is to achieve sustainable and efficient customer satisfaction (Kurt Salmon Associates Inc., 1993) and simultaneous coverage of other business concepts and models (Fowler & Goh, 2012).

The achieved category management standard implies a precise eight-step business process which includes (Category Management Subcommittee, ECR Best Practices Operating Committee & The Partnering Group Inc., 1995): category formation (which products form a category and its segments); category role (purpose and task of a category); evaluation of category potential (chances and business improvements analysis); category goals (defining measures of effect); category strategies (subcategory roles); category tactics (specific decisions at the level of available instruments); plan implementation; supervision and business development (follow, measure and modify). A special contribution to the development of this concept was made by Harris and McPartland (1993).

The concept of category management is nowadays broadly accepted (Guissoni et al., 2013). According to one piece of research, category management is of critical importance for 98% of retailers and 89% of producers (Clow, 2009). Popularity of category management is attributed to the noted effects on the increase in sales (Harris & Clutts, 2008).

3. SHOPPER IN THE FOCUS OF BUSINESS STRATEGY – IMPORTANCE AND ACCEPTABILITY ARGUMENTATION

The basic concept of category management in its essence revolves around customer understanding, which is by itself not sufficiently utilized in business practice (Harris, 2010). Literature and practice analysis leads to a conclusion that the transformation of the traditional category management business process into a shopper-centric one
is necessary. This primarily means making room for concept development and business capacity expansion, primarily based on shopper data and retail stores’ revenue analysis (Desrochers & Nelson, 2006). Path to Purchase Institute observes the focus on the shopper both as an actuality and a perspective which defines the direction of category management (Path to Purchase Institute, 2017). Retailers often depend on suppliers, who possess a certain advantage in this field, stepping out in terms of shopper marketing development (Silveira & Marreiros, 2016).

Retail is “the center of gravity in marketing” (O’Leary, 2013), an idea which influenced the evolution of category management at the beginning of 21st century. Shopper, naturally being in the focus of retail, becomes the focal point of all contemporary business strategies, with special accent being placed on category management (Petković & Bogetić, 2014).

Since a significant portion of purchasing decisions is made or changed in-store (Sinha & Uniyal, 2005), customer care is a crucial business matter (Bogetić & Petković, 2014). Selling space is becoming an increasingly important resource, therefore it is necessary to understand the difference between shopper and consumer (Shankar et al., 2011). At the customer level, numerous differences which include different behaviors in-store and out, must be examined (Pincott, 2012). This is the basis for complex shopper marketing strategy development, which is undoubtedly effective since it is constantly attracting more and more investments (Hoyt & Swift, 2014).

A shopper demands complex treatment, both outside and inside the store, as well as after the sales, which brings up the issue of balancing the shopper-marketing strategy (Wyner, 2011). Thus, the term path to purchase is gaining in popularity. Its recognition in different situations is a precondition for proper customer service. Shopping mission understanding and the need to adapt to the retail offer are becoming broadly accepted business innovations which accompany shopper marketing.

Big data on clients and sales is an actual retail phenomenon (Ridge et al., 2015). Technological capabilities of retail organizations should be coupled with the ability to manage huge quantities of data, including the development of new approaches and quality in generating useful managerial information. A promising shopping marketing capacity is primarily based on technology. For example, the development of smartphones made the intensive shopper marketing activities outside the store possible (Shankar & Balasubramanian, 2009). Additionally, the capabilities of the internet greatly influenced customers’ relation to retailers (Verhoef et al., 2007). Therefore, we can conclude that this is undoubtly a new approach to marketing, including: interactive communication, social media marketing, development of before-and-after shopping experience, production of short and provocative contents and efficient customer engagement programs (Egol et al., 2013).
Let us look back on a couple of arguments depicting the necessity for innovations in an actual category management model and practices (Clow, 2009): inconsistent top management support; treating category management as a tactical tool; traditional measures of effect are not a good starting point for focusing on the customer; excessive project orientation instead of a continuous process; inefficient business cycles, excessive patterned data collecting and low usage of customer insight; excessive reliance on suppliers; insufficient focus on the store and shoppers, inconsistent in-store application, problematic employees’ competences; weak software support; appearance of new trends and challenges.

Shopper-centric retailing, or redefining the category management on the basis of shopper marketing, can be argued in the following way (Weber et al., 2015):

- Trends on the customer side lead toward a great need for the development of adequate solutions within product categories (i.e. different approaches to organic products offer);
- High-quality data on shopper and consumer behavior are available;
- Retail formats proliferation leads to the demand for analytics and shopper and consumer behavior understanding;
- Understanding that the full potential of category managers is not properly utilized due to insufficient understanding of the needs and behavior of individual customers;
- Development of the shopper marketing concept, from the perspective of its scope, operational challenges and standardization in its entirety.

While defining category management, the Category Management Association emphasizes the importance of shopper focus and retail service qualifications. Besides partnerships, efficient and effective category management implies following the latest trends in economy and technology-based collecting and processing the available data (Category Management Association, 2016).

Business principles of the Jointly Agreed Growth initiative also favor business focused on shoppers (Jointly agreed growth, 2008). Innovator Brian Harris also contributed to the evolution of the balanced category management focused on consumers and shoppers (cited in Stahlberg & Maila, 2012).

Summing up the arguments for innovation of the concept and the business process of category management in the direction of placing the focus on the shopper, the following should be noted (Weber et al., 2015):

- Capitalization based on new technology, such as internet, digitalization and mobile devices;
- Strengthening the idea of category management as a towering competitive strategy of a retail organization;
• Necessary shift of category management focus to market activities, which implies revising all business process steps and elimination of inefficiencies;
• Availability of shopper insights and room for their implementation in business planning at the level of category and stores in general (store shoppers’ path to purchase);
• Emphasizing improvements of shopping experiences, with expectance of a more efficient category management;
• The necessity of integrating customer solutions which overcome single-category focus by enveloping many relevant categories and suppliers;
• The necessity of coordinating different categories management, including the new perspective of the selected suppliers’ synchronization;
• Affirmation of partner planning between retailers and suppliers, based on open data and expertise exchange.

Leading authorities in the field of category management unanimously agree that a more efficient and effective business process focused on the shopper is needed. Technological preconditions and organizational maturity are the necessary starting points for entering into the delicate business of redefining the focus and business performance of a retail organization.

4. SHOPPER-CENTRIC RETAILING AND CATEGORY MANAGEMENT DEVELOPMENT

A wider view of a shopper-centric business is reflected in the retail organization’s perspective whose attention is centered around the shopper, namely shopper marketing activities in the service of improving business performances and shopping experience. In their consulting practice, Winston Weber & Associates affirmed the shopper-centric retail business process comprised of eight logically sorted steps (Winston Weber & Associates, 2016):

• Decisions on strategic positioning of retail organizations;
• Defining retailer’s financial goals;
• Shopper insights (segmentation, goals, decision making and solutions);
• Customer satisfaction strategy development;
• Connecting with shoppers on the instrument level (price, promotion, assortment, shelves and experience);
• Multifunctional synchronization (operations, marketing, logistics and finance);
• Plan implementation;
• Performance monitoring and learning.

In order for a retailer to provide good integral shopping experience for the customer, it is necessary to possess adequate technological capacity, as well as skills in developing and implementing appropriate knowledge and managerial information. Retailer’s
capability is manifested at the planning level and in the defined action program implementation. The starting point is the wider positioning strategy of the retailer and its objects, which is materialized in the defined financial goals that must be achieved. Without high-quality insight into shoppers, projected advances will not be achieved. Besides this, interorganizational compatibility must also be achieved for the entire retail organization to be able to singularly focus on the shoppers. Retail organization’s adaptation is imminent, so we can conclude that there are certain shopper-centric structural elements which should be applied: integrated analytics observed as a strategic imperative and a crucial investment; structure for creating more efficient solutions (a step forward compared to the traditional department organization); new positions within a store’s operational management; new merchandise manager solution and actualization, as an integral part of store management; change in terminology, which sends a strong message of change in the strategic orientation at all levels (Weber & Faiiy, 2015).

The starting point is top management communication on strategic intentions with lower managerial levels. The goal is to focus on shopper experience and merchandising solutions, as well as to achieve the integrated business plan. The entire retail activity is based on the store level and available instrumentation. The evolution path of retailing toward shopper focus is shown in Figure 1.

**Figure 1: Evolutionary steps from traditional retailer toward shopper-centric retailing**

Evolution of retail organization toward focus on the shopper implies understanding and providing answers to certain critical questions. Minding the scope and depth of change brought about by shifting the focus from consumer to shopper, it is necessary to develop an active dialog in the organization about strategy, mainly at the middle and top management level. The goal is to synchronize strategy and the environment capabilities aimed at efficient solutions, for which the development of adequate culture and a value system is necessary. This must also be achieved for supplier organizations, which should believe that focus on customers improves brand affinity in
cooperation programs. By partnering with the aim of improving shopper experiences, mutually beneficial business results improve. Partnering process consists of the following: thorough supplier selection process, full confidence during information exchange, detailed information on categories and shopper insights, evaluation of data and information possessed by both sides; agreement on key insights and preliminary chance identification; in-store shopping experience and SWOT analysis; business plan in draft and final version (Weber & Faiyy, 2015).

Shopper-centric retail implies simultaneous use of retailer’s and supplier’s expertise, which requires an efficient flow of knowledge. Here we are talking about a steady flow of information regarding which retailer’s experience is being attained by balancing marketing, logistic, financial and other instruments available.

Being able to quickly take advantage of the emerging business opportunities is a precondition to sustainable retail and supplier business conduct. This is where the adaptation process of category management begins, in the service of providing enhanced shopping experience. Depending on who has the leading role in category management, it is possible to differentiate between retail-led practices and supplier-led practices (Freedman & Reyner, 1997). In both cases, the emphasis is on faster servicing and better business results, which are especially affected by the following factors: technology and information, competition, shoppers, store as a marketing media and loyalty programs (Harris & Clutts, 2008).

Clow (2009) observes the guidelines for shopper-centric category management in the following way: shopper-centric strategy; clearly guided business processes developed for all categories; shopper insight is at the center of innovative business process; emphasis is on differentiation-from-competitors initiatives; necessary solution localization; necessary emphasis on business process with good implementation of the defined plan; category management business process should integrate marketing loyalty elements (Petković & Bogetić, 2014). There are also certain recommendations for shortening the category management process to seven steps. At the beginning, the category is defined, alongside its role in the business portfolio, which is also the case with the standard business process model (Bogetić, 2007). These two steps are rarely questioned, which leaves room for more thorough and frequent analysis of consecutive steps in the category management business process.

The starting point of a good individual category business plan is a detailed insight into the customers (Silveira & Marreiros, 2014). Harris and Clutts (2008) divide the business plan in two parts – basic (80% of workload) and localized (20% of workload on adjustments). Innovation is a continuous new shopper-insight-plan actualization based on partnerships with suppliers. By focusing on operational retail activities, responsiveness to commonly occurring business opportunities or threats is accelerated. The emphasis is on overcoming business challenges and not wasting time on unnec-
necessary red tape (Harris & Clutts, 2008). This is summarized in five operational steps in category management, as shown in Figure 2.

**Figure 2: Five operational steps in category management**

It is necessary to objectize and accelerate the process of collecting and processing shopper related data (Padhy et al., 2012). It is equally important to efficiently update the detailed insights into shoppers on a daily basis (McAfee & Brynjolfsson, 2012). Clow (2009) mentions the importance of customer segments and relevant plans development.

Shopper-centric category management innovation is implemented on the basis of the existing model. Existing knowledge is enriched with “add-ons” regarding relevant shopper insights (Silveira & Marreiros, 2014). Proof of shopper analysis complexity is the fact that the shopper can behave differently at the level of various categories (Lucas, 2010).

This is also the case with subcategory roles (Bogetić, 2007). Cross-merchandising approach, convenience in shopping approach and degustation approach are all innovative solutions to subcategory roles in a shopper-centric category management business plan (Fowler & Goh, 2012).

An important part of shopper-centric category management business process is the partnership with suppliers (Wade, 2013). Product category business plan should be
the product of joint development and work, including partner verification. This is depicted in Figure 3.

**Figure 3: Vertically integrated interfunctional cooperation between suppliers and retailers**

Synchronization of annual financial, marketing and logistic plans between suppliers and retailers is essential. This is also the case with shopper marketing programs for in-store brand sales increase (Harris & Clutts, 2008), which is the object of partner solution localization (Shankar & Bolton, 2004). Let us mention category management profiling for durable and non-durable goods (Inman et al., 2009). To sum up, formal comprehensive category management process is necessary (Clow, 2009)

5. FUTURE DIRECTIONS OF SHOPPER-CENTRIC RETAILING RESEARCH

Shopper-centric retail is undoubtedly a trend in marketing channels in the developed countries, with clear signs of future expansions in developing and undeveloped countries. It is quite apparent that retail domination in marketing channels is a global trend, therefore expansion of shopper-centric business initiatives and in-store shopper experience can be expected. Having in mind the turning point from consumer focus in marketing channels toward emphasizing in-store shopping experience, as well as acknowledging other steps in the shopping process, significant shifts and changes in the existing competitive strategies, as well as new business approaches to innovations can be expected. Future shopper-centric retail research will be aimed at analyzing innovations in multichannel management, including advances related to
new business conditions in supply chain management. In the light of new competition, future considerations and innovations in the field of theory and practice of the value chain integration and new partner planning perspective will attract special attention.

At the level of retail organizations, a whole new spectrum of organizational challenges is opening up in the light of combined consumer and shopper focus, and the focus shift toward customers and development of their loyalty toward the retail offer. One of the most challenging research questions is redefining the category management strategy and tactics, perspectives of which have been suggested in this paper. There is room for shopper-centric category management optimization and it is full of potential. This will be especially important when analyzing different category characteristics, such as product expiring properties, commercial value and specificities of supply chain management solutions. The question of a “paper-free” and efficient category management business process is still open. Rapid development of competitors’ efficient responses to the evermore dynamic customer retail needs is to be expected.

Shopper-centric retailing is a major challenge for suppliers, as well, who have proven to be quite adaptable to sophisticated demands of the retail-dominated environment. Supplier activities in the field of shopper marketing and common predation compared to retailers are good examples of this. Optimal practical modifications such as trade marketing and key accounts management in the context of shopper-centric adaptations, still pose open issues. Special attention should be placed on future supplier strategy research, and also on structural adaptations of these organizations to shopper marketing requirements and focus on the shopper. Different models of innovation in the field of partnerships between suppliers and retailers will undoubtedly create significant room for successful and sustainable business development.

6. CONCLUSION

Shopper-centric retailing is the future of competitive games in the increasingly targeted retail sector. Trade gained in importance, and so did shoppers, being its natural focus. As a witness of the business focus shift toward customer and shopping experience affirmation, retail is at a crossroads of new strategic organizational solutions. This implies opening new job positions, as well as closing or redefining the already existing ones. Given that there are no shopper-centric retailing standards, and since the concept is still in its early stage, many misconceptions and challenges should be expected in the pioneering practices. At the same time, players who devise and adopt productive shopper-centric business solutions will have a clear perspective. It is also clear that immediate negligence of consumers compared to shoppers in this early stage of business redefining, and strong adherence to traditional business models would be viewed as irrational behavior with potential negative repercussions for the company’s revenue and market share. In the wake of the anticipated, but still unde-
fined new business practices, retailers and suppliers should still pay significant attention to the traditional focus on the consumer. We can conclude that the development of shopper-centric retailing should be evolutional in character and predominantly based on partnering initiatives with the selected suppliers who possess appropriate capacity.

In the context of redefining business focus, domestic players could learn some very useful lessons from the advances in the Western business practice, especially regarding market openness and clear European perspective. At first, these could be innovations in the widely present category management, which still has not achieved the full potential of a standard model. In this context, shopper-centric business process innovations could be less expensive compared to the highly developed and well-established praxis. Therefore, the relative lag of the domestic economy compared to the modern category management praxis in the developed countries could be utilized for a relatively cheap, yet competitive step forward in the field of shopper marketing and shopper-centric retailing.

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THE CHANGING FUNCTION OF SHOPPING CENTRES IN A SATURATED MARKET

Blaženka Knežević*, Eva Pavić**, Petra Škrobot***

Abstract As retailing formats, shopping centres have had a rich history in developed economies since the 1950s. In Eastern Europe, the shopping centre industry has bloomed since the early 1990s. Nowadays, some Eastern European markets have become saturated. In saturated markets, shopping centres are forced to reconfigure and redesign their tenant mix in order to satisfy other consumer needs beyond the shopping. Not only shopping centres recognize and serve existing social needs of consumers, but they are actively creating new social needs which consumers are not yet aware of. In this paper, we will first discuss the level of saturation of the shopping centre market in South-Eastern Europe. Then, we will discuss wide research streams in the area of shopping centres which developed as a sub-discipline of retail management as an answer to complexity in shopping centres’ management and marketing within saturated markets. Finally, we will present results of the primary research conducted in Croatia as an example of a saturated South Eastern European market. The primary research aims to empirically prove that the function of modern shopping centres has broadened beyond shopping per se, and that public and social functions of a shopping centre are important motivators and drivers of shopping centre's business success.

Keywords: shopping centre, shopping malls, consumer needs, public space, socialization, saturated market

JEL: L81, O14, R12
Field: Business

INTRODUCTION

A shopping centre is defined as a group of retail and other commercial establishments that are planned, developed, owned, and managed as a single property with on-site parking provided (International Council of Shopping Centres, ICSC, 2011). In developed economies shopping centres have a rich tradition. In the United States of America, they were introduced in the late 1950s and during the 1960s (White & Gray, 1996), while as a retail format in Europe they appeared in the late 1960s in Nordic countries (Segetlija, 2006). According to Beyard and O’Mara (2006), shopping centres’ popularity and market share grew rapidly, and by 1974 more than 25% of all nonautomotive retail sales was generated in shopping centres, while by 1996, this indicator grew to 52%.

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The majority of investments in shopping centres in Europe after the late 1990s were done in Central and Eastern European countries, and this process significantly intensified after the economic crisis. For illustration, Figure 1 shows the number of shopping centres in operation and the number of planned shopping centres in selected countries in the region of South Eastern Europe. We can observe that among shown countries, Croatia in 2012 had the largest number of operating centres (59) and the largest number of shopping centres in the pipeline (more 22) while, for instance, Former Yugoslav Republic of Macedonia had 15 operating and 5 shopping centres in the pipeline.

**Figure 1: Existing and planned shopping centres in selected South Eastern European countries (2012)**

If we compare the indicator of total shopping centre floor space per capita for Central and Eastern European countries, we will come to the conclusion that some markets are saturated, and that at some markets there is still room for further expansion. According to data for 2012 available in European Retail Guide (2013), Slovenia had 366 square meters of shopping centres per capita; Croatia had 269, Ukraine 236 and Poland 218, which was comparable to Austria (330), Italy (233) or Germany (190). Therefore, we can conclude that, in South-Eastern European region, Slovenia and Croatia already reached saturation level in this field, while other countries had 100 or less than 150 square meters of shopping centres per capita.

The competition among shopping centres in saturated markets is very high and, thus, positioning and branding of a certain shopping centre is becoming more complex and requires new knowledge and skills. Therefore, shopping centres as a specific for-
mat of retail emerged as a topic of scientific research interest and in the scientific literature. There are many research streams of study within this particular industry. Research streams include: historical analysis of the development of shopping centres, their scope and variety, exploration of tenant mix planning and development, consumer behaviour and general attitudes towards shopping centres, etc. Therefore, in the first section, we will draw attention to literature on shopping centres which explains the changing role of shopping centres over time.

However, we have noticed a scarcity of papers and studies which scrutinise the situation in the shopping centre market in Central and Eastern Europe, especially by putting consumers into the focus. Hence, in the second section, we will contribute to the knowledge of this particular region with the results of the primary research done on consumers in Croatia as a representative of the region which has the saturated market structure measured by square meters of shopping centres per capita. This primary research had several objectives which are outlined in the description of sample and methodology.

**SECTION 2: SHOPPING CENTRES’ EXTENDED FUNCTIONS AS THE RESEARCH TOPIC**

The shopping centre has been recognised as one of the 50 most important innovations that have revolutionised the life of American consumers (Zafar, 2007). Asadi (2009) and Khorrami Rouz (2014) claim that shopping centres (also, shopping mall or shopping plaza) are the 20th-century version of bazaars and the offspring of industrialisation and modern architecture. They suggest that shopping centres are comprised of groups of stores in a roofed or unroofed space. Besides shopping facilities, shopping centres provide services such as restaurant, parking, recreation, hairdressing, etc. Variability in these services depends on size, neighbourhood area, and many other factors.

Tenants generate profits for shopping centres and their mix is dependent on the consumer needs for goods and services approximation (Bruwer, 1997). Prendergast et al. (1996 and 1998), on the example of New Zealand’s shopping centres showed that retailers in shopping centres (tenants) had higher sales turnover than retailers outside the shopping centres (non-tenants).

Process of planning, designing and adapting of the shopping centre begins and ends with the knowledge on consumers: who they are, what their major characteristics are, how they behave and what they want when it comes to the shopping centre as a retail format and offered contents within a shopping centre. Therefore, a lot of research studies focus on consumer attitudes and shopping experience creation within shopping centres. Holbrook and Hirschman (1982) and Brakus et al. (2009) showed that the mall experience is founded on cognitive, behavioural and emotional reactions,
but there was no existing model to explain them and their correlation thoroughly. Gilboa and Vilnai-Yavetz (2013) further explained that mall experience is holistic by its nature and that the behavioural core is strongly combined with cognitive and emotional reactions. They emphasise that consumer motivations and attitudes towards shopping mall experiences, and in the end shopping centres themselves, are the key input factor for shopping centres’ planning, functioning, development and success. Therefore, this study suggests that more exploration should be conducted in order to better define and thus understand consumers’ motivations.

Recent studies (ICSC, 2015) show that shopping centres are, nowadays, more than simply locations to purchase goods and services. Thus, they should provide consumers with larger social space for leisure and entertainment, but also offer areas that enable engagement in civic social action. Moreover, Nisco and Napolitano (2006) empirically proved that there is a positive link between entertainment orientation and performance outcomes of a shopping mall.

El-Adly (2007) has shown comfort, entertainment, diversity, mall essence, convenience and luxury to be six different attractiveness factors. Furthermore, he has revealed some interesting consumers segments – relaxed, demanding and pragmatic consumers. Each consumer’s segment has its special motives and behaviour pattern. Therefore, these kinds of studies can be the basis of shopping centres’ planning when trying to target specific consumer segment.

In addition, Ozsoy, M. (2010), explains that shopping centres have public function and provide opportunities for their users to socialize. Moreover, he adds that contemporary shopping centres are designed to provide a new experience for postmodern users and that they provide function of leisure and entertainment as well.

In the next section, we will contribute to behavioural exploration regarding shopping centres by focusing on consumers’ behaviour in shopping centres in Croatia in order to explain extended functions of modern shopping centres.

SECTION 3: PRIMARY RESEARCH ON CONSUMERS’ ATTITUDES TOWARDS SHOPPING CENTRES IN CROATIA

3.1. METHODOLOGY AND SAMPLE

The primary research was taken as an online survey on adult respondents of various social and age groups in Croatia. The research took place in May and June 2016. In order to get the clearest possible understanding of a typical consumer as well as his needs, the main idea was to collect a large number of surveys. Thus different channels were used to collect online survey responses from adult consumers in Croatia and
the sample was developed by using network effect and snowball sampling method suggested by Suri (2011) and Baltar and Brunet (2012).

Based on the analysed literature and questionnaire components of prior studies, a modified questionnaire was designed and applied. The questionnaire consisted of four sections. An online questionnaire included 19 questions of different types: 14 single choice questions, 2 multiple choice questions, 2 Likert scale ranking questions and 1 fully open-ended question. Questions were based upon literature and divided in 4 sections: (1) Personal information (according to Nicholls et al., 2000; El-Adly, 2007; Zafar, 2007), (2) Characteristics of consumer behaviour in a visit to a shopping mall (according to Hoolbrook and Hirschman, 1982; Martin and Turley, 2004), (3) Consumers’ perception towards key contents and key determinants of shopping centres (according to Bodkin and Lord (1997); LeHew and Fairhurst, 2000; Zafar, 2007; Brakus et al., 2009; Singh and Sahay, 2012; ISCS, 2015) and (4) Positive and negative factors when planning a visit to the shopping centre (according to Nicholls et al., 2000; Martin and Turley, 2004; El-Adly, 2007; Brakus et al., 2009; Gilboa and Vilnai-Yavetz, 2013).

Target group of the questionnaire were adult consumers in Croatia. Total number of collected responses was 387. Table 1 shows relative frequency of sample characteristics.

Table 1: Characteristics of the sample

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>OPTIONS</th>
<th>RELATIVE FREQUENCY (N=387)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>38.24%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>61.76%</td>
</tr>
<tr>
<td>Age</td>
<td>Less than 18</td>
<td>0.52%</td>
</tr>
<tr>
<td></td>
<td>18-25</td>
<td>31.52%</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>50.13%</td>
</tr>
<tr>
<td></td>
<td>36-45</td>
<td>12.14%</td>
</tr>
<tr>
<td></td>
<td>46-60</td>
<td>4.39%</td>
</tr>
<tr>
<td></td>
<td>61 and more</td>
<td>1.29%</td>
</tr>
<tr>
<td>Perceived economic situation of</td>
<td>Very good</td>
<td>11.63%</td>
</tr>
<tr>
<td>respondents</td>
<td>Good</td>
<td>45.22%</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>37.21%</td>
</tr>
<tr>
<td></td>
<td>Below average</td>
<td>5.94%</td>
</tr>
</tbody>
</table>

Source: Authors’ own work.
3.2. RESEARCH FINDINGS

In this section, first we are going to describe the profile of respondents as shopping centre consumers. Then we will examine which contents are preferred in a tenant mix of the shopping centre. Finally, we will discuss factors that positively influence shopping centre visits and factors that negatively influence shopping centre visits, from the aspect of respondents of the primary research in Croatia.

The majority of respondents visit shopping centres on a monthly (54%) or weekly basis (23%). Only 5% of respondents visit shopping centres more than once a week. This finding could lead us to the assumption that consumers in Croatia visit shopping centres for planned weekly or monthly purchasing, but this presumption should be more explored in future research studies. However, there are 18% of respondents who strictly claim that they do not visit shopping centres for the most part. Therefore, above all, in the following section, we will try to explain what are the avoidance or detrimental factors of the shopping centres.

Figure 2 shows with whom respondents, most often, visit shopping centres. Only one-quarter (25.06%) claims that they predominantly visit shopping centres alone. The most usual case is to have a company of one person, either a partner (30.49%) or a friend (14.21%). Another significant option is a family visit (21.96%). Visiting shopping centres in the large group of friends is not the common case in Croatia. When it comes to kids, the largest number of respondents has chosen a family visit rather than a visit with kids only.

**Figure 2: Companions when visiting a shopping centre (the whole sample)**

![Bar chart showing companions when visiting a shopping centre]

Source: Authors’ own research
The majority of respondents spend up to 20% of monthly income in shopping centres (see Table 2), while only 2.58% respondents claim that the sum spent in the shopping centre is one-third or more of their monthly income. Regarding the number of visits and number of purchases, we can observe that purchase will occur always or often. Indeed, only 7.24% of respondents approximate that purchasing occurs rarely (i.e. in less than 25% of visits to the shopping centre). However, the number of respondents that claimed that they visited shopping centres but purchased sometimes or rarely is rather high (28.43%), so this brings us to the conclusion that shopping is not a dominant motivator to visit a shopping centre.

Table 2: Respondents’ approximation of own spending and purchasing in the shopping centre

<table>
<thead>
<tr>
<th>Percentage of income spent in the shopping centre within a month</th>
<th>Relative frequency</th>
<th>Occurrence of purchase per visit</th>
<th>Relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10%</td>
<td>35.92%</td>
<td>in every visit to the shopping centre (always)</td>
<td>26.10%</td>
</tr>
<tr>
<td>10-20%</td>
<td>43.93%</td>
<td>in 50% to 99% of visits (often)</td>
<td>45.48%</td>
</tr>
<tr>
<td>20-30%</td>
<td>17.57%</td>
<td>in 25% to 49% of visits (sometimes)</td>
<td>21.19%</td>
</tr>
<tr>
<td>30% and more</td>
<td>2.58%</td>
<td>in less than 25% of visits (rarely)</td>
<td>7.24%</td>
</tr>
</tbody>
</table>

Source: Authors’ own research

Moreover, the majority of the respondents have the preference towards one or two shopping centres (64%), but there is a rather high proportion of those who did not develop loyalty to any shopping centre (35%). Only 1% of respondents claim that they prefer to shop in 3 to 5 shopping centres.

In addition, we performed cross-tabulation according to the gender, and Chi-Squared test was applied in order to observe existing significant differences between females and males. We observed statistically significant differences between genders (at the level of significance of α=0.05), by analysing questions on companions when visiting shopping centres (p-value =0.0000) and questions about percentage of income spent in a shopping centre within a month (p-value=0.0038). Females expressed that they visited shopping centres alone in 18% of the cases, while for males ‘alone’ occurred in only 6% of the cases. Another fact is that males in 18% of the cases visit shopping centres in the company of a partner, while this option was chosen by 12% of females. When it comes to a family visit, the difference is also obvious – females chose this option in 14.73% of the cases compared to 7.24% chosen by males (note: all percentages are expressed in relation to the total number of respondents N=387). Also, females are dominant when we come to higher percentages of the income spent in shopping centres.
Contents of the shopping centre have to be adjusted to the needs of consumers. Consumers’ needs can be measured by observing categories of products wanted in the offer of a particular shopping centre. In Figure 3, preferred products and services wanted by consumers in Croatia are shown. First three positions are fashion (79% of respondents), accessories (54%) and food (47%). Nonetheless, we have to point out that social services such as entertainment are claimed as important content by one third of respondents.

**Figure 3: Preferred contents of shopping centres**

![Bar chart showing preferred contents of shopping centres.](Note: Multiple choice questions)

Source: Authors’ own research

However, offered contents in terms of products and services are not enough to attract consumers into shopping centres. Therefore, we asked examinees about key elements that influence their choice of shopping centres. Figure 4 outlines key elements in our sample. Three most important elements that influence the choice of consumers in Croatia are existence of preferred retailer (79%), the proximity of the shopping centre (47%) and the size of the shopping centre (32%). “Good entertainment” is an influential factor for 11% of respondents.
Figure 4: Elements influencing the choice of the shopping centre

When we excluded the first and the most obvious motive of the visit to a shopping centre, “shopping experiences” themselves, and when we grouped all options into 3 categories, we got results shown in Figure 5. Socialisation is important in 34% cases, and contents in form of movies, concerts or food are important in 24% cases. In the group “other”, which was left as an open-ended option, respondents were writing positive remarks (13 respondents), neutral remarks (3 respondents) and negative remarks (7 respondents). Positive remarks were oriented towards a shopping centre as a pleasant place for socialisation; a couple of respondents emphasised free parking as a first positive association, while negative comments were about “artificial lighting”, “badly air-conditioned air” and shopping centres as “capitalistic postmodern institutions”.

Source: Authors’ own research
Recently, many shopping centres enriched their offer by organising social events. During the last year in Zagreb, there were many social events organised in shopping centres. For instance, auto show, fair of organic food and products, baby fair, children and pregnant women fair, pets fair, etc. Therefore, we asked respondents if they had visited some special event in a shopping centre during the past year. In Figure 6 we can observe that 30% of respondents visited a special event in the shopping centre at least once or several times. This finding gives us an empirical proof that shopping centres are becoming a vivid and important social place in their gravitation areas.
4. CONCLUSIONS

In spite of a rapid development of the shopping centre industry in post-communist South-Eastern European countries, there is a scarcity of primary research studies devoted to this topic in this particular region. Therefore, the findings on consumers’ attitudes towards shopping centres in Croatia, as an example of a saturated market, are a valuable contribution to a better understanding of the situation in the shopping centre market in this particular region and can serve as a basis for prediction of future development trends of the shopping centre market in other countries of the region.

In this particular market there is a significant number of consumers who visit shopping centres but purchase sometimes or rarely (28.43%). Therefore, we can conclude that their primary motivation to visit a shopping centre could be socialisation or pure entertainment. This claim can be supported by another finding where 30% of respondents claimed that they visited some special event in the shopping centre at least once or several times during the past year. Furthermore, when analysing motives to visit a shopping centre, entertainment was found as the third motivator for a shopping centre visit (after “convenient shopping” and “preferred retailers”).

There are certain limitations that could be solved in future research. First, this study was based on basic descriptive statistics and Chi-Squared tests when observing dif-
ferences between genders. Therefore, in the future, the inferential statistical analysis could be done according to the age and economic situation of respondents, in order to find existing differences within particular consumer groups or correlations between observed motives, associations, attitudes and behaviours.

Second, the research sample could be broadened and sampling could be done randomly in order to improve the possibilities of generalisation for the particular market. Also, this research has been done only in one South-Eastern European market, i.e. only for Croatia. Therefore, future research could be broadened geographically by including more countries in the region of Central and Eastern Europe or EU in general. In that way, a comparative analysis could be performed in order to explain differences between countries with mature shopping centre market structures and emerging markets.

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CONSUMER PROTECTION POLICY PERFORMANCE IN EUROPEAN COUNTRIES

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Abstract: Consumers play a key role in an economic policy for smart, inclusive and sustainable growth. After the drop in consumer spending during the recent economic crisis, the European governments have increased their efforts to develop an economic policy that will stimulate consumer spending through all retail channels, especially online. Consumer protection falls within the shared competence of the EU and Member States. Their priority is to develop a regulatory framework which would remove some of the market barriers, promote economic growth and increase consumer confidence in commercial transactions in order to reach the European level of consumer policy performance. The paper is divided into three parts. The first part deals with the regulatory framework of customer rights protection policy in order to identify the scope of activities. Then, the second part introduces a comparison of consumer policy performance in key areas: consumer confidence, compliance with consumer legislation, complaint management and redress mechanisms, and in the last chapter, public policy improvements were discussed. It is necessary to compare the current performance of the policy in practice. Using the latest available data from Consumer Conditions Scoreboard, the paper explores consumer policy performance in several European countries and compares its effectiveness by taking into consideration some of the indicators of successful policy implementation such as consumer knowledge and trust, compliance with consumer legislation, complaint and redress mechanisms. Some studies have shown that the safety of products and services can have the most powerful positive or negative effect on personal consumption, and the complexity of the procedure for filing and administrating complaints usually deters consumers from exercising their basic rights. The findings of the paper can provide the policy makers, especially in countries lagging behind such as Croatia, with useful information and help them take a position in the development of this market regulation policy that affects consumer lifestyle, market confidence, retail prices, provision of high-quality goods and services and that among other things, may bring the society and market closer to the concept of consumer protection.

Keywords: consumer policy; market regulation; performance, European Union.

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1. INTRODUCTION

In its publication, the OECD states that: “More than ever, the active empowered consumers drive innovation, productivity and competition. Positioning consumers to better grapple with global markets and technological change is a key challenge” (OECD, 2014). This starting point brings consumers’ trust and commitment to the forefront of global economic policy. In the Consumer Rights Report, the European Commission states that: “Better consumer conditions not only improve consumer welfare, but also benefit the economy as a whole. When consumers have the necessary confidence, knowledge and institutional conditions to act as market drivers - by comparing offers, switching providers, complaining and seeking redress when their rights are breached - they reward the most efficient and innovative companies, and stimulate competition, which in turn leads to improved productivity and growth” (European Commission, 2015). The consumers’ perception of the way they enjoy broader rights and have a better position when facing traders creates a strong impact on personal consumption (Dunković & Horvat, 2015) which makes up 56% of the EU’s GDP and makes it the most important factor in the European market economy (Rossetti & Roy, 2015). Encouraging innovation is the cornerstone of the European economic policy “Innovation Union”¹, and consumer confidence in cross-border online retailing is key to the European Strategy for Digital Agenda and Europe 2020 for smart, inclusive and sustainable growth. Consumer policy is also closely related to the industrial and energy policy (European Commission, 2015).

Consumer rights protection policy is the market policy which seeks to influence consumers’ perception. It is based on a regulatory economic and legal concept that regulates consumer-trader relations in the marketplace with the aim of protecting certain consumer rights in relation to retailers and operators (Dunković, 2015, 2016c). It is an integral part of the European Union’s development policy and is one of the main policies for the implementation of the Single Market Economy. Consumers need to expand their trade rights to feel safer and to deal more easily with their trading problems. Consumer perception is the main indicator of how effective the national consumer policy is and to what extent the consumers actually use their rights. Research into consumer conditions facilitates or hampers the transformation of consumer choice into consumer welfare. If, for example, consumers are dissatisfied with how their complaints are handled with or do not trust the institutions that protect their rights, these are, among other things, serious signals that improvements in the implementation of consumer policy are necessary (Dunković, 2016b). Consumer dissatisfaction with respect for their rights is reflected in their decision to buy and value their personal consumption.

¹ Innovation Union is the European Union strategy to create an innovation-friendly environment that makes it easier for great ideas to be turned into products and services that will bring growth and jobs to the economy. Available at: http://ec.europa.eu/research/innovation-union/index_en.cfm. (Accessed on May 20th 2017).
The consumer policy performance in the EU countries varies substantially. In general, it can be said that consumers in the highly developed countries such as Denmark, Germany, the Netherlands and the UK show a much greater degree of knowledge of their rights and are particularly satisfied with the respect showed to them by traders. In the Mediterranean countries and Southeastern Europe, the situation is different, which implies that countries that have achieved a higher standard of living and provide better quality of life have also provided consumers with a better market position. In poorer positioned countries, priority should be given to developing a regulatory framework that would flatten the market barriers, promote economic growth and increase consumer confidence in commercial transactions in order to approach more closely to the average index level of policy performance. Everything could be concretized through serious actions in three spheres of consumer conditions (Hardeman, 2015): a) knowledge and trust; b) complaint and dispute resolution; and c) compliance and enforcement. The current state of consumer conditions is the result of creating and providing information about products and services on one hand, and the ability of consumers to accept, understand and interpret this information on the other.

The aim of this paper is to compare the indicators that reveal consumer conditions in several European countries such as Austria, Italy, Hungary, the Czech Republic, Slovenia and Croatia, and to make suggestions for making progress in those spheres of policy in the observed countries that are lagging behind the developed countries. The performance indicators are ranked in four zones or quarters divided by three points: 1st quartile that 25% of the poorest performing countries are ranked below, the median of the data set and the 2nd quartile that 25% of the best performing countries are ranked above. Source of secondary data is the Consumer Conditions Scoreboard for 2013 and 2015 collected by the Eurobarometer survey. For example, certifications and marketing activities entice consumers to consume certified foods (e.g. fruits and vegetables) of natural origin without artificial additives, which creates a stimulating environment for healthy living, whereby regulation should protect consumers from those retailers who exploit the weak market position of consumers and deceive them with their marketing activities. Numerous studies have been carried out on individual consumer policy segments where proposals for improving efficiency, and thus the overall consumer policy performance, are presented.

The paper is divided into three parts. The first part deals with the regulatory framework of customer rights protection policy in order to identify the scope of activities.

2 Consumer Scoreboards are the key instrument for monitoring consumer outcomes in the Single Market, providing input for a wide range of EU and national policies (European Commission, 2013).
3 Confidence in certified products (Jahn et al., 2005); sustainable consumption (Prothero et al., 2011); regulation of unfair terms in consumer contracts (Ramsey, 2012); food security (Cope et al., 2010); consumer protection against financial institutions practice (Ruthledge, 2010); consumer protection in online purchase environment (Svantesson & Clarke, 2010), consumer complaint behavior (Jasper & Waldhart, 2013).
Then, the second part introduces a comparison of consumer policy performance in key areas: consumer confidence, compliance with consumer legislation, complaint management and redress mechanisms, while the last chapter offers a discussion of public policy improvements.

### 2. REGULATORY FRAMEWORK

Consumer protection as an EU policy was enforced by Article 169 of the Treaty on the Functioning of the European Union: “In order to promote the interests of consumers and to ensure a high level of consumer protection, the Union shall contribute to protecting the health, safety and economic interests of consumers, as well as to promoting their right to information, education and to organize themselves in order to safeguard their interests. The Union shall contribute to the attainment of the objectives referred to measures adopted in the context of the completion of the internal market and measures which support supplement and monitor the policy pursued by the Member States”.

According to the Charter of Fundamental Rights of the European Union, Union policies shall ensure a high level of consumer protection.4 Observing the primary law, it is obvious that consumer protection is one of the main cornerstones of the EU and that consumers are protected at the EU level. The very establishment of the internal market5 and accordingly, the requirement to implement the four fundamental economic freedoms were the preconditions for activating the demand for an effective consumer protection policy in the European Union (Pošćić, 2005).

The consumers’ interests can be divided into four fundamental rights (Baretić & Kuzmanić, 2003): the right to protect economic interests; the right to legal protection; the right to information and training; and the right to be represented (the right of the consumer to be heard). It is also possible to distinguish between the right to compensation for damages and the right to associate, represent and participate in the consumer protection policy making in order to exercise their rights.6

Consumer protection is an indirect policy7 of the European Union. It is developed primarily within the framework of building up the internal market and it is not an independent policy within the European Union. However, through the protection of the internal market and the harmonization of the Member States laws, the intention is to encourage consumers to trade in other Member States and traders to trade therein, as well. Consumer protection area is a shared competence between the European Union and the Member States and it is a horizontal policy. Consumer protection must be taken into account when implementing all other official policies and

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5 For further information on the EU Internal Market, see Bodiroga-Vukobrat et al. (2011).
6 Croatian National Program for consumer protection for the 2007-2008 period.
7 A list of EU policies is available at: https://europa.eu/european-union/topics_en.
thus, regardless of the sector the consumers belong to or the segment of the market they appear in, their interests must be protected. Furthermore, the rules of consumer protection require minimal harmonization (Akšamović & Marton, 2011). The European Union generally allows Member States to retain and prescribe more consumer protection if they deem it necessary and appropriate.

The goals of consumer protection are achieved through secondary legislation of the European Union. Secondary sources of the EU law are legal acts adopted by EU institutions, international treaties regulating interrelations between the EU and other international organizations or third countries (Horak et al., 2016).

And finally, the EU’s action program in the field of consumer protection policy is a particular European consumer strategy in line with the EU 2020 Growth Strategy and the Consumer Program 2014-2020 (European Commission, 2014). In 2012, the European Commission adopted the European Consumer Agenda – Boosting confidence and growth, which represents its strategic vision for EU consumer policy in the upcoming period. The aim of the Agenda was to maximize consumer participation and confidence in the market, and its four key objectives are: a) improving consumer safety ensuring that products, services and food are safe; b) enhancing knowledge by properly empowering and providing consumers with clear, reliable and comparable information and tools to understand it; c) improving implementation, stepping up enforcement and securing redress; and d) aligning rights and key policies to economic and societal change to ensure that consumers have the confidence to buy online not only the traditional goods and services, but also the digital ones (European Commission, 2012). Consumer laws should therefore be updated to meet the needs of changing markets and to take account of the emerging insights from behavioral sciences about the ways the consumers behave in practice. Barriers that currently prevent consumers from accessing the digital products and services they want to buy anywhere in the EU should be removed. To address these issues, the European Commission will work towards the specific objectives: adapting consumer law to the digital age and promoting sustainable growth and supporting consumer interest among the key stakeholders.

As concluded in the Agenda, the comprehensive policy framework is designed to put consumers at the core of the Single Market, as they are key to growth in the EU. All the measures take into account the changes in consumption patterns observed on the ground, technological progress, fast-moving markets and the need to empower consumers, and they ensure that they can exercise their rights effectively. Expected results within consumer programs are linked to the key priorities of the Commission’s policy, the single digital market in particular, the implementation of consumer protection legislation, including consumer rights, firmer and fairer internal market and energy union.
When analyzing consumer protection regulation, the importance of the role of the European Court of Justice in policy making must be mentioned. The European Court of Justice (hereinafter referred to as: ECJ) gives in its decisions the analysis of the consumer concept. In the first of its decisions in the Gut case\(^8\), the ECJ defines the average consumer as reasonably informed, careful and cautious (Poščić, 2010, 2013). According to judicial practice, the consumer is a reasonable person who can read the product labels on its own and make a decision. A consumer is a person who can take care of his or her own interests. It is considered to be a person who makes an informed decision independently. The market should provide consumers with all the information they would need to be able to make a purchasing decision. In a large number of cases, the state prohibited access to products which, in their composition, characteristics or labels, were not in accordance with national legislation\(^9\). The ECJ’s view is that it is necessary to familiarize consumers in a proper way with a product that contains precisely defined ingredients and is manufactured in a certain way. The ECJ Court reaffirmed the right of states seeking to protect consumers, thus justifying a national measure that violates the principle of the free movement of goods, but only if it finds that the consumer cannot otherwise be adequately protected. It is the ECJ’s view that consumers will be adequately protected if proper and clear product information, in particular the product characteristics, is provided in an easily understandable language. However, too much information might produce an excessive effect. Despite the good intentions of the legislator, it may happen that the consumer is burdened with too much information and cannot discern what matters to him/her. This is the main reason why the regulation has to be re-examined constantly.

When analyzing the regulatory framework of the Member States, it appears to be harmonized with EU regulations for the most part, so what is questionable is its implementation in the business practices. The national regulators will have to address these issues and regulate them at the national level in accordance with the respective business environment.

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3. CONSUMER POLICY PERFORMANCE – EXAMINATION OF CONSUMER CONDITIONS

Consumer policy is an economic policy instrument that seeks to improve the state of consumer conditions in the market because consumers have had to deal with an increasing number of new products and services and even with retailers and operators, some of whom have used deceptive practices to increase their business, thus prompting intervention by the consumer protection authorities. With the development of online commerce, new purchasing methods are being adopted by the consumers, whereby most of them consider their ability and skills to be reduced, which does not inspire much confidence in the retailers. The regulatory framework aims to bring about changes in the conditions in which the consumers are making their purchasing decisions by using a very complex policy mechanism that essentially consists of restricting the marketing activities of retailers, facilitating complaints and solving consumer disputes. It is important to create a better perception in the consumers’ minds that their rights are protected, in the sense that they are protected for their own benefit from risks and threats they cannot tackle as individuals.

The recent consumer policy concept developed by the OECD in 2010 assumes that the government can improve overall and individual consumer welfare through consumer empowerment (i.e. educated and informed customers are the first line of defense against firms that try to unfairly take advantage of consumers). Consumer welfare is a subjective concept different from a much wider concept of human wellbeing that encompasses many different aspects such as material living conditions, health, education and the natural living environment (Eurostat, 2017). The outcome of the goods and services consumption is an important factor in achieving the desired level of standards of living so that consumer welfare refers to individual benefits deriving from the consumption of goods and services. It is defined by an individual’s own assessment of his/her satisfaction, given the prices and income\(^\text{10}\). Countries with better consumer conditions also have higher economic performance and standards of living. Countries that are more developed in terms of market competitiveness seem to record higher levels of consumer conditions, while the transition or less developed economies are lagging behind. The existing literature (Hardeman, 2015) explores a relevant feature of the correlation between innovation and consumer conditions that certainly deserves further investigation so as to understand the conditions (in terms of innovations and technological advances to foster fair consumer conditions or vice versa).

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Precise measurement of consumer satisfaction includes collecting data on attitudes dependable on consumer conditions in which decisions are made, purchase and consumption of goods and services as displayed by the concept described in Figure 1. Consumer culture affects consumer conditions, as well as retail and market structure, including a variety of products, and finally the consumers’ budget. Consumer conditions include those aspects of the consumption process that help or hinder consumers’ choice and much of these conditions shape retailers and operators in terms of their marketing activities. Regular courts, courts of honor, mediation centers and other institutions such as consumer protection organizations have a direct effect only on few consumer conditions. All the above-mentioned stakeholders make a contribution to the general performance of consumer policy.

European Commission has developed an improved concept of consumer policy that enables monitoring of consumer conditions consisting of three elements. The first includes the consumers and businesses’ knowledge of consumer rights, their trust in institutional factors, product safety and environmental claims and confidence in online commerce. The second one is focused on issues of compliance with consumer legislation and enforcement of consumer and product safety legislation, while the third aspect focuses on consumer complaints and resolution of disputes emerging due to market transactions between consumers and retailers.

For the performance analysis, data for six EU countries were selected, while the factors employed in making the selection were the degree of economic development and geographic proximity and position. Usually when countries are compared, the closest one or two highly developed countries are taken into consideration, as well as a few other ones that aspire to better conditions. One of the important limitations that are imposed when selecting countries is the fact that the analysis could consider only the Member States included in the relevant research of public opinion in the Flash Eurobarometer survey. Therefore, the analysis included Austria as the leading country in the region, given that it is often regarded as a benchmark for many economic issues, followed by Italy as the leading Mediterranean country where retail sales are particularly dispersed, and four transition economies that are more or less neighboring countries: Hungary, the Czech Republic, Croatia and Slovenia.
3.1. CONSUMER KNOWLEDGE AND TRUST

Trade thrives on trust. Consumers need to be confident that they have all the information they need to make their purchasing decisions, that the products they buy are fit for purpose, that they are free to choose from the offers available in the market, that they pay a fair price for what they get and that they have the possibility to seek remedies when problems occur. Suppliers, on the other hand, should have the opportunity to promote their products in good faith and to protect their commercial image, to offer sales and after-sales conditions without being undercut by unfair competition and to be subject to requirements for compliance with regulatory measures which are commercially viable. According to Hardeman (2015), both sides in the transaction need to be confident that they can make their trading decisions on a reliable basis, that transactional risk is fairly distributed between them and that possibilities to address specific contingencies match reasonable expectations.

In terms of consumer confidence in public institutions, traders and NGOs, out of the six surveyed countries, Austria holds the best position and Slovenia the lowest. In Croatia, for example, 64% of respondents replied with “totally disagree” and only 4% with “agree” when asked the question “Do you trust public authorities to protect your rights as a consumer?” (European Commission, 2014a). Measurement of consumer confidence is related to consumer trusts in the authorities handling consumer rights and to the consumers' perception of the ease of settling disputes and, finally, product safety. Total consumer confidence in organizations is rated slightly better in Croatia than in Slovenia (Table 1). Trust in organizations includes combined trust in public authorities, trust in retailers and service providers and trust in non-government organizations. Slovenian and Croatian consumers reported the lowest level of trust, observing solely the public authorities in EU countries.

Table 1: Indicators of knowledge and trust in six EU Member States using the 0-100 index *.

<table>
<thead>
<tr>
<th></th>
<th>Knowledge of consumer rights</th>
<th>Trust in organizations</th>
<th>Trust in redress mechanism</th>
<th>Trust in product safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>30.97</td>
<td>50.19</td>
<td>31.01</td>
<td>61.14</td>
</tr>
<tr>
<td>Italy</td>
<td>48.23</td>
<td>56.62</td>
<td>37.06</td>
<td>55.46</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>56.26</td>
<td>55.91</td>
<td>32.64</td>
<td>79.28</td>
</tr>
<tr>
<td>Austria</td>
<td>44.08</td>
<td>76.47</td>
<td>46.34</td>
<td>81.53</td>
</tr>
<tr>
<td>Hungary</td>
<td>34.52</td>
<td>76.25</td>
<td>37.67</td>
<td>71.67</td>
</tr>
<tr>
<td>Slovenia</td>
<td>42.15</td>
<td>49.45</td>
<td>21.95</td>
<td>68.89</td>
</tr>
<tr>
<td>EU-28 average</td>
<td>42.85</td>
<td>64.60</td>
<td>40.93</td>
<td>68.75</td>
</tr>
</tbody>
</table>

*higher index value indicates better conditions [Rossetti, F., & Van Roy, V., 2015, p. 279].
NB: shaded numbers are the highest index values; italicized numbers are the minimum value among the observed countries. Source: Combined by the authors from the Consumer Conditions Scoreboard, 2015 edition.
When it comes to the responses on the pillar “Knowledge of consumers’ rights”, Croatia recorded the worst result, since the largest percentage of as much as 35% of the respondents answered incorrectly to all the questions about their knowledge of consumer rights. This category assesses the knowledge of the consumers in terms of the cooling-off period, faulty product guarantee and unsolicited products.

The study of consumer conditions also covers retailers and their knowledge of consumer rights. Marketing operations are the most relevant activities of retailers affecting consumer attitudes and behaviors. Persuasion and advertising with the aim of higher sales are difficult to reconcile with honesty towards consumers. Most often, the traders make use of ads and messages to convince consumers to experience pleasure and thus affect their economic behavior. However, consumers become dissatisfied and demotivated to consume goods or services if their purchasing experience is repeatedly below expectations. A retailer who is unfamiliar with consumer law is likely to violate regulations with its marketing activities and to expose the business to risk of sanctions for such treatment.

**Figure 2: Infographics of Knowledge and Trust sphere performance.**

![Infographics showing knowledge and trust performance in various countries](source)

In better-ranked countries such as Hungary and the Czech Republic (Figure 2), consumers have more trust in the concept and are more aware of their rights, which means that they are more willing to seek compensations when their rights are compromised. Poor consumer awareness of product safety labels or environmental claims creates a negative impact on the decision and choice of products (Julander & Soderlund, 2005) because consumers are then more easily deceived by green blocks on the labels which are used by producers and traders to try to make a fake impression of an “environmentally friendly” scheme. In Hungary, the burning issue is the major mistrust of consumers in domestic online retailers that is at the most critical level of trust among the countries in the EU (more than 27 points below the EU average).

A vast majority of consumers’ online shopping activities is limited to the domestic online market. To increase the cross-border retail trade, a single coherent legal framework is needed to encourage a potentially small increase in the number of cross-border transactions (Twigg-Flesner, 2010). In terms of cross-border activity of the consumers, the important factors are: confidence in online shopping, problems with delivery of online purchases and problems in cross-border online transactions linked
to country or geo-blocking. Most consumers do not have enough confidence in online shopping with retailers outside their country. The Eurobarometer survey (European Commission, 2014a) reveals that in Austria 50% of consumers trust in cross-border online shopping, while in Croatia only 33% have confidence in cross-border shopping, and this percentage in Hungary is 36%. Limiting the purchase or delivery to a certain geographic location has a negative effect on the development of a digital marketplace and cross-border trade, and especially trade activity via the Internet.

### 3.2. COMPLIANCE AND ENFORCEMENT SPHERE

The second category of indicators refers to the alignment and effectiveness of regulatory implementation, such as how effectively it prevents unfair commercial practices (UCP) and solves the problems with purchased goods. Consumers can consciously evaluate whether they were exposed to some form of unfair commercial practices. However, this depends on how much they are actually familiar with the entire concept of unfair commercial practice, which includes thirty prohibited activities of traders. Often consumers are not familiar with all the regulated unfair actions, but for retail management this is a requirement because without knowing this concept and the list of forbidden actions they are not able to align their business accordingly. That is why the compliance of retail businesses with regulations also comprises retailer attitudes and their views on how their competition complies with the legal concept of UCP.

Analyzing the combined scale of exposure and the prevalence index of unfair commercial practices and the index of regulation of product and service safety (European Commission, 2013a), it can be concluded that the largest number of the analyzed countries performed poorly in this area of policy (the 1st quartile red zone). Slovenia and Italy recorded equal results (Figure 3), while Croatia exhibited a maximum deviation from the EU average, which means that negligent implementation of legal regulations regarding safety of products on the shelves is observed (Rački Marinković & Dunković, 2016). Such result shows that retailers are aware of the fact that competitors are selling unsafe products of unproven origin and that the situation would be better if inspections of the supply and supply chain supervisions were more frequent. Retailers in the Czech Republic share similar attitudes with the ones in Croatia.

**Figure 3: Infographics of Compliance and Enforcement sphere performance.**

Source: Combined by the authors from the Consumer Conditions Scoreboard, 2015 edition.
In assessing consumer conditions in the Austrian market, the very perception of the consumers that they are highly exposed to UCP creates the greatest negative impact, as much as 11.7 standard points below the EU average. This is seemingly the result of very good knowledge and level of awareness by the Austrian consumers who are familiar with the UCP black list. For some countries which are even more exposed to such practices, the results will not be so poor if consumers are not at the same time sufficiently familiar with what these actions are. Although Italy and Slovenia are somewhat better ranked among the countries included in the analysis, they have identified a major problem of violations of consumer rights by retailers, as confirmed by the retailers themselves while assessing the behavior of their competitors. Obviously, with the lack of control due to the high dispersion of the Italian retail market structure, Italian retailers make use of all their marketing skills, including deception, without any special restrictions from the consumer protection authorities.

3.3. CONSUMER DISPUTE RESOLUTION PERFORMANCE

The more the consumers are becoming more demanding, it is expected that the number of complaints would be increasing. One of the fundamental consumer rights is the right to express and file a complaint in an acceptable and accessible manner (Dunković, 2016c). The reasons why the consumer decides to file a complaint is some sort of loss, mental or economic, which he/she has experienced. Complaints are a business risk for all traders and it is therefore important how they handle them and how they will redress these. The negative perception of complaint by a retailer or operator, a, combined with the complexity of the procedure that can only be mastered by a skilled consumer or “expert”, discourages consumers from resorting to this mechanism that can be expensive and exhaustive for both parties.

Consumers experience no obvious difficulties when undertaking the majority of transactions, particularly those that are simple and routine-like. Moreover, when problems arise they can often be resolved through direct dealings with retailers (Dunković, 2016a). Furthermore, the very nature of market functioning can sometimes generate effective solutions for many consumer problems. For example, a firm that misleads consumers about the quality of its goods may lose sales due to lack of repeat business and a reputation for dishonesty. Though the majority of consumer protection authorities operate within resource constraints and must be selective in deciding which problems to consider more thoroughly and which to reject, in some cases they are required by law to respond to certain types of complaints.

For this reason, the third and the last aspect of consumer policy performance measurement was established, referring to the opportunities and encouraging consumers to file a complaint. According to Figure 4, this segment is best positioned among all three aspects, since the largest number of countries scored above average. This also shows how the results in the red and orange zones can be improved with relatively lit-
tle effort. Consumers who figure out that they have been faced with the need to send a complaint because of the resulting dissatisfaction, but who do not proceed with it because they have no confidence in the complaint handling process, bring about the vivid conclusion that there are serious discrepancies in consumer policy that should facilitate the process of problem and dispute resolution.

**Figure 4: Infographics of Complaints and Dispute Resolution sphere performance.**

![Infographics of Complaints and Dispute Resolution sphere performance.](image)

Source: Combined by authors from the Consumer Conditions Scoreboard, 2015 edition.

In three of the observed countries scoring in the red zone (Figure 4), retailers have confirmed very weak involvement in the alternative dispute resolution (ADR) mechanism. In the very well-positioned Hungary, consumers encounter problems more frequently, so the retailers recognized the benefits of being involved in ADR. The problem of Croatia and Italy, as well as of the Czech Republic, lies in the large share of respondents claiming to have encountered problems during the purchase, but who were, at the same time, not willing to take action and make a complaint.

According to the results of an official survey (European Commission, 2014), a quarter of the respondents (25%) said that in the past 12 months they had legitimate cause for complaint when buying or using goods or services in their own country. Out of the people who experienced problems, over 80% took action to solve the problem (21% of the total respondents), while less than one fifth did nothing about it (4% of the total respondents). The likelihood of respondents experiencing problems when purchasing or using a product varies considerably from one country to another. Cyprus appears to be the Member State where consumers were most likely to encounter problems after buying products domestically (38% of the respondents). A relatively high number of people also had problems in the Czech Republic (35%) and Croatia (35%). In Austria, 88% of the respondents who experienced problems took action to address them. Somewhat lower percentages in the same situation were reported in Italy 75%, Hungary 73%, the Czech Republic 70%, and finally Croatia, indicating 66%. As one of the main reasons for poor performance of this segment of consumer policy, consumers reported that they consider the solving process too long, which is why they did not make immediate complaints. Consumer policy in the EU is evolving (Creutzfeldt, 2014) so as to increase access to justice by providing alternatives to long and costly court procedures, which have proven to be unsuitable for low-value consumer complaints.
4. CONCLUSION

Markets of many products and services have become sophisticated in the recent decades, requiring higher levels of knowledge and skills on the part of consumers. Improving consumer conditions has become an important part of the EU’s economic policy, and the European Commission makes more and more effort to make the impression of creating a society and a marketplace in which accessibility, individual choice, safe products and services and confidence prevail in market transactions. Promoting consumer interests and welfare is at the core of the future success of the Single Market Economy and prosperity of European integrations.

In this paper, by elaborating on the consumer policy performance monitoring methodology, we compared the situation in six Member States. The median and statistical quartiles (quartile 1 and quartile 2) were used as performance benchmarks to assess which of the four success zones the national indicators belong to. Among the countries surveyed, Croatia, as the poorest performing country, generally scores in the red zone, which ranks it as the worst-positioned country in all three areas: a) consumer knowledge and trust in market transactions; b) compliance management; and c) dispute resolution system. The other observed transition economies – Hungary, Slovenia and the Czech Republic – have made some progress, though still lagging behind the average performance of EU countries, not to mention the highly developed countries such as Austria.

Monitoring of consumer policy implementation in the European Union is also intensified in terms of the frequency of public opinion polling and the coverage of as many areas as possible. While analysis of collected results makes a contribution with very useful data which can be used to categorize performance in different ways (demographic, geographic, etc.), at the same time it is difficult to come up with solutions and action plans to improve certain areas or to put forward suggestions to remove the identified shortcomings.

Several guidelines and suggestions can be made for improving the performance of consumer policy in the lagging countries. Although a precise and efficient performance measurement system is being very well implemented at the EU level, in some countries there is a lack of adequate responses from consumer protection authorities, and some of these countries were examined in the paper. First of all, the evaluation of options and the selection of appropriate policy action is critical. Measures to be selected will usually depend on their financial impact on traders, consumers and the state budget. Effects can be forecasted by better consulting the stakeholders on all aspects of policy. In less developed countries with a less competitive retail structure, it is not easy to create the conditions where a retailer will turn to self-regulation in respecting the consumer rights. For this reason, adequate enforcement of regulation is necessary. The third guideline is better access to informal redress mechanisms be-
cause informed consumers will seek economically more favorable solutions to their major problems that cannot be solved individually.

Consumer rights protection regulatory framework has the tools available to address marketplace problems or rather consumer-trader transaction relationships. These range from those that focus on consumer empowerment (the demand-side measures), such as education and awareness initiatives, enhancing the quality or type of information provided for products and ensuring consumer contracts are not unfair to those that focus on modifying traders marketing practice (the supply-side measures), such as product standards, licensing and codes of conduct.

REFERENCES


SHOPPER MARKETING AS A FUNCTION OF MODERN DISTRIBUTION CHANNELS

Dejan Tešić*

Abstract Shopper marketing is a set of activities that aim to stimulate the customer to opt for a particular store, product and service in all phases of the purchasing process. Even though this concept was developed several years ago, it has already started to play a major role when it comes to stimulating the consumer to larger and more frequent purchases. The process of selection of a specific brand by the customer is a phenomenon, which has recently been attracting more and more attention.

Nowadays, when competition among manufacturers is very serious, it is difficult to build a brand that would be predominantly chosen by consumers. Today, more than ever before, modern consumers use multiple distribution channels when they make decisions. They make the decision about purchase stimulated by traditional media (television, mail, print media), as well as modern media (the Internet and smart phones). The largest number of decisions about the purchase is made at the point of sale. The term “point of sale” is no longer tied solely to the physical (brick-and-mortar) places of sales, but to the online point of sale as well.

A shopper is not necessarily a consumer, nor is a consumer necessarily a shopper. Traditional marketing brings consumers at the focus of its activities. The trend that has been experiencing its rise and that tries to affirm the difference between a consumer and a shopper is called shopper marketing. Shopper marketing seeks to explain what happens when a consumer becomes a shopper.

Shopper marketing is based on several key elements, primarily on the characteristics of the company, customers, competitors and products. In addition to understanding these elements, shopper marketing follows changes in technology, primarily in the field of mobile and social networks. Technology, as well as economics, regulation and globalization, has led to many innovations in shopper marketing aimed at improvements in all phases of the purchasing process. Innovations are very important because they allow shoppers of modern and fast-paced world to perform their purchases in a pleasant and fun way, and it is up to innovations to enable this holistic shopping experience.

The question is whether the tools of shopper marketing can be equally applied when it comes to physical and online stores, taking into account their specific features. Bearing that in mind, this paper will present the most important factors that need to be addressed when creating and maintaining relationships with customers using the tools of the shopper marketing.

Those companies that understand the act of purchasing, as well as the activities preceding and following the purchase itself, are the companies that have proper understanding of the importance of applying shopper marketing customer stimulation tools.

Keywords: shopper, consumer, technology, distribution channels, retailing

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INTRODUCTION

In the 21st century, the traditional attitude towards consumers and consumption, which has been imposed by manufacturers and distributors, has started to disappear (Bogetić, Stojković and Milošević, 2016). Instead, there has been a growing development of the concept of shopper marketing, which brings strategic and organizational guidance (Sorensen, 2009/a; Sorensen, 2009/b).

For the seller, customer satisfaction is one of the most important goals, primarily because sellers tend to increase customer loyalty. Kumar, Umashankar and Park argue that the road to the consumer’s heart leads through the store, and that vendors have to take into account the experience of customers within the store (Kumar, Umashankar and Park, 2014).

Shopper marketing is a newer concept that draws more attention every day (Shankar, Inman, Mantrala, Kelley and Rizley, 2011; Harris, 2010), and certain authors (such as Flint, Runyan, Esmark and Jones, 2012) believe that it can lead to evolution in the field of marketing. There are many definitions of it and, therefore, we will list some of them (Silveira and Marreiros, 2014):

- “The use of any kind of marketing stimulus, developed on the basis of a deep understanding of purchasing behaviour, designed to build the market value of the brand, involve consumers in purchasing and bring him or her to the very act of purchase” (GMA / Deloitte, 2007).
- “The use of a strategic insight into customer mind-set in order to effectively manage marketing and trade activities in a specific store environment” (In-Store Marketing Institute, 2009).
- “Using marketing and trade initiatives in order to meet the needs of targeted customers, increase customer experience and improve business results and the market value of the brand for retailers and manufacturers” (Retail Commission on Shopper Marketing, 2010).
- “Planning and implementing all marketing activities that affect the customer during, as well as before and after the purchasing process, from the point when the motive for the purchase emerges for the first time, to the point of purchase, consumption, re-purchase and recommendation” (Shankar, 2011).

Taking into account the aforementioned definitions, some aspects of shopper marketing can be seen summarized by Lovreta, Petković, Bogetić and Stojković in the following way: customer insights, appropriate marketing/merchandising activities at the point of sale, improved purchasing experience, improved sales, and benefits for all three interested parties - buyer, retailer and supplier (Lovreta, Petković, Bogetić and Stojković, 2016).
Shopper marketing should be viewed as an integrated set of activities aimed at meeting the needs of customers in terms of products and services offered by the store, but also by increasing the overall customer experience before, during and after the purchase, and by linking the needs of customers with the needs of end consumers (Silveira and Marreiros, 2014). This form of understanding of shopper marketing was mostly shaped through the changes in the technological, social and business environment that reflected on consumers and their behaviour, because they enabled them to get more information about products and prices at any time, inside and outside of the store (Wyner, 2011; Marketing Science Institute, 2010).

**DIFFERENCE BETWEEN TRADITIONAL AND SHOPPER MARKETING**

Shopper marketing is a newer concept that started to develop during the last two decades, or perhaps even earlier than that. Before it emerged, all marketing company activities were organized through traditional tools and methods. With the advent of shopper marketing, many sellers started to abandon traditional marketing to go in a new direction.

Traditional and shopper marketing differ on a number of levels, especially in the field of strategic and tactical dimensions (Shankar et al., 2011). At the strategic level, the differences are primarily reflected in the principles, dominant focus, primary goal, individuals' work and breadth of perspective. The principles on which traditional marketing stands are the creation of awareness through “push and pull” strategies, while shopper marketing creates consumer awareness through “triggers of influence” in the purchasing process (i.e. the commercials, intensity of the demand, etc.). Traditional marketing focuses primarily on brands and consumers, while shopper marketing is directed at customers. Brand, consumer and consumption are the main orientations of traditional marketing, while in the case of strategic dimension, the buyer and the purchasing process are the main directions of shopper marketing.

It is important to note that traditional marketing does not distinguish customers from consumers. Lovret, Petković, Bogetić and Stojković (2016) point out that it is very important to distinguish between a buyer and a consumer “which are very different, as two sides of a coin” (Kapferer, 2008), especially in modern (turbulent) business conditions. Not every buyer is an end-user of the product bought, and this should be kept in mind when conducting a purchase.

Differences in tactical dimensions are reflected above all in the domain of individual action, focus of category and sales promotion. Traditional marketing is focused on actions within the store (i.e. customer visits), in contrast to shopper marketing that is used by a growing number of media and technology channels in order to get in touch, as well as to create an impact on customers. Furthermore, traditional marketing is focused on one, while shopper marketing focuses on a number of product and service
categories. Sales promotion tools for traditional marketing are aimed at consumers, while those of shopper marketing aim at customers.

**Table 1: Traditional vs. shopper marketing**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Strategic/Tactical</th>
<th>Traditional marketing</th>
<th>Shopper marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles</td>
<td>Strategic</td>
<td>Creating awareness, using “push and pull” strategies</td>
<td>Creating awareness, using “triggers of influence” in the purchasing process</td>
</tr>
<tr>
<td>Dominant focus</td>
<td>Strategic</td>
<td>Brand</td>
<td>Buyer</td>
</tr>
<tr>
<td>Primary goal</td>
<td>Strategic</td>
<td>Consumer</td>
<td>Buyer</td>
</tr>
<tr>
<td>Method of work of the individual</td>
<td>Strategic</td>
<td>Consumption</td>
<td>Purchase</td>
</tr>
<tr>
<td>Breadth of perspective</td>
<td>Strategic</td>
<td>Brand, Category</td>
<td>360 Degree customer observation</td>
</tr>
<tr>
<td>The scope of individual action</td>
<td>Tactical</td>
<td>Primary offline, usually within the store</td>
<td>Through all channels, media and devices</td>
</tr>
<tr>
<td>Focus of category</td>
<td>Tactical</td>
<td>One category</td>
<td>Multi-category</td>
</tr>
<tr>
<td>Sales promotion</td>
<td>Tactical</td>
<td>Merchandising and consumer-oriented promotions</td>
<td>Customer-focused promotions</td>
</tr>
</tbody>
</table>

Source: Shankar et al. (2011).

It is important to note that, in the last few years, the interest in shopper marketing has significantly increased, and it is visible that sellers are turning towards the tools and techniques of shopper marketing.

**MARKETING AT THE POINT OF SALE – KEY COMPONENT OF SHOPPER MARKETING**

In-store marketing (ISM) is at the core of shopper marketing, and it is defined as “the use of information and communication-oriented retail marketing instruments in stores” (Zentes, Morschett and Schramm-Klein, 2011). Marketing at the point of sale aims to change not only the preferences of customers, but the ways in which they shop in the store as well.

Kumar, Umashankar and Park (2014) defined the basic elements and sub-elements of ISM (Figure 1). For marketing in the store, as a key element of purchasing marketing, the most important are:
1. characteristics of the company,
2. customer characteristics,
3. competitive characteristics and
4. product characteristics.

Characteristics of the company include the atmosphere, presentation, promotion, assortment and the image of the store. The atmosphere implies creating an environment that will help the customer to feel more comfortable and safe during shopping. It relates primarily to “the effort to design a shopping environment that will produce specific emotional effects in a customer and, therefore, increase the chances of shopping” (Kotler, 1973). The atmosphere can be viewed through five elements: visual, auditory, fragrant, element of touch and taste (Kotler, 1973; Zentes, Morschett and Schramm-Klein, 2011). These elements work synergistically, helping to make the customer feel comfortable in the shop and thus encourage him or her to shop. The way products are exhibited inside the store include elements such as shelf space (Cox, 1964; Cox, 1970; Curhan, 1973; Curhan, 1974), product exposure (Chandon, Hutchinson, Young and Bradlow, 2009; Chevalier, 1975; Inman, Winer and Ferraro, 2009) and its position inside the shop (Ghosh, 1994; Iyer, 1989; Levy and Weitz, 1995; Lewison, 1994; Mason, Mayer and Ezell, 1991). Each of these elements should be considered when designing the interior of the store. For the buyer, it is very important that there is a certain order, arrangement and logic in the exhibition of products. The promotions are “a series of several different short-term tactical tools designed to provide a fast response from the market” (Kumar and Leone, 1988). They are crucial for every store because customers are (sometimes) encouraged toward unplanned purchases if they are a part of a promotional campaign.

Assortment, both its size and its diversity, has a significant impact on customers and the choice of store in which they will buy. Customers, in general, like to have choices, so stores with a diversified range of products will attract customers more than stores that do not offer such a choice. The image of the store, as the last element within the company’s characteristics, has an impact on customers in the way that those stores that have a recognizable image on the market attract customers easier than those that are not market-recognized.

Customer characteristics describe the aspects of customers that influence buying behaviour. The most important characteristics of the customer include demographic characteristics (age, sex, income and family size), familiarity with the store (it implies knowledge of goods, schedules, traders and other elements of the store that allow customers to feel safe, welcome and “at home” when they are in a shop) and personal qualities (loyalty, tendency towards coupons, etc.).

“Competitive characteristics are marketing tactics, initiated between competing products within a retail environment that affect customer behaviour when shopping at a store” (Kumar, Umashankar and Park, 2014). Competitive forces include private
vs. national brands, as well as competition between the national brands. Customers very often choose the national brands over the store brand because of an assessed and imagined difference in quality (Sethuraman, 2000).

**Figure 1: ISM elements**

Source: Kumar, Umashankar and Park (2014)
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Product characteristics can be divided according to three criteria: perishable and non-perishable products (Krider and Weinberg, 2000), luxury and non-luxury products (Vickers and Renand, 2003) and hedonistic and utilitarian products (Dhar and Wertenbroch, 2000).

THE IMPACT OF TECHNOLOGY ON SHOPPER MARKETING

Today’s modern world cannot be imagined without advanced technology. The Internet, mobile networks, social networks and technology tools we use everyday are here to make our lives easier, to enable us to complete all our obligations more quickly and easily, but to relax and entertain us as well. Technology is slowly taking over all aspects of life, both private and social, but especially those of business life. This is confirmed by data published by a famous marketing agency in Singapore We Are Social in January 2016, which states the following:

1. 3.42 billion people use the Internet daily.
2. 3.79 billion people use mobile devices actively.
3. Over 2.3 billion have a profile on social networks.
4. Two billion users access social networks via their mobile phones.

Since they showed up, social networks have allowed companies a completely new way of communicating with customers - viral marketing. Smartphones, for which we have thousands of applications developed, enable customers to make purchases anytime and anywhere, if they have access to the Internet. Only two decades ago, such method of purchasing was not possible. As their potential seems enormous, many companies have used them to further develop their relationship with customers, as well as to improve their business processes.

MOBILE SHOPPER MARKETING

Smartphones, which appeared just a few years ago, have become a necessity in modern society. They are used for everything, from ordinary communication to business and, since recently, for buying and selling on the Internet. The advantages that smartphones possess have been recognized by many companies, so that they decided to use them in order to bring their business directly to customers.
The GSM Mobile Operators Association (GSMA) announced that the number of GSM mobile users in April exceeded three billion for the first time. According to bhtelekom.ba, “the number of mobile phone users reached four billion just four years after it had reached the first billion, and only two years after breaking the limit of two billion users. The first network of GSM started operations 17 years ago, and today it involves more than 700 mobile operators in 218 countries and provinces. The number of users is growing at a speed of 15 new users per second, i.e. 1.3 million a day. Most GSM mobile users are located in China, where the number of users is 509 million, and each month they have 7 million new ones, and then we have India (193 million and 6 million new users per month) and Russia (178 million). A further increase in the number of users, around 85% of it, mostly comes from new markets.” One question arises: how to exploit mobile phones and the potential they carry?

Today, buyers live fast lives. There is little time for a traditional shopping or visiting more stores before we decide where we want to buy. This shortage of time even prevented us from buying the quantities we used to buy, because shopping is done quickly and only for specific things we need. Moreover, it is known how important for the sellers are the purchases where customers, in addition to the items they planned to buy, purchase other unplanned products as well, just because they were there, in front of them. Besides the speed, customers face the so-called “unproductive time” (e.g. waiting for transport). The lack of shopping time, as well as “unproductive time”, has become a part of everyday life, but there is a constant need to find a solution to the problem of making quick and efficient purchases.

Sellers are those who must know how to innovate, to progress, and to know how to adapt business according to customer needs. They need to realize that modern times tend to exploit advancements in the field of technology, and that many successful companies constantly follow and adapt to new technological discoveries. If the time customers used to spend on shopping decreased and, therefore, they buy less, they should be allowed to make purchases when they have time for it and at the place where they currently are (for example, while waiting for transportation).

Smartphones and apps developed for them allow customers to easily locate the store, view customer reviews, check prices and availability of specific products, and even make purchases over the phone. The main thing that mobile phones have enabled for customers is the agility of purchasing behaviour (Hathaway, 2014). Taking into account the fact that people have very little time to shop, especially for comparison shopping, mobile phones offer them the opportunity to do it from the comfort of their home and, when they find time, to go and buy a specific product or service. In this sense, mobile phones shorten the time necessary for shopping and enable customers to be more efficient.
SOCIAL NETWORKS IN THE FUNCTION OF SHOPPER MARKETING

Social networks have experienced incredible expansion over the past few years. As noted earlier, almost one third of the people on the planet have a profile on one of social networks, which is a fascinating piece of information, given that social networks appeared less than two decades ago. Furthermore, today’s interactive forms of social networks have appeared ten years ago and are used by a third of the world’s population.

Companies have recognized all the benefits that social media can provide, and they have been using them to get closer to their customers. Social networks changed the purchasing cycle itself and, more importantly, they managed to create an impact on customers at all stages of the purchase (before, during and after the purchase). The simplest way to exploit social networks is to “listen to the network, where marketers continually monitor their brands on social networks and in the blogosphere, and respond to the opportunities and challenges that arise” (Shankar, 2014).

On the other hand, the use of social networks is still not sufficiently explored when it comes to customer behaviour and purchasing process. Part of the reason for this is the fact that social networks are newer communication tools, at least in today’s interactive form. In addition, social networks are rapidly evolving and, therefore, continuously give new opportunities for communication, search and purchases as well, so it is very difficult to research them.

A FRAMEWORK FOR ANALYSING AND APPLYING INNOVATIONS IN SHOPPER MARKETING

Recently, shopper marketing has become popular among retailers as a means of following the entire purchase process, from the initial intention to after-sale activities, satisfaction or dissatisfaction. Although it appeared not so long ago, innovations in shopper marketing are very common and primarily develop from changes in buyers’ purchasing behaviour. There are four main initiators of customer behaviour change, and they are the result of trends in four environmental factors (Shankar et al., 2011):

1. technology,
2. economy,
3. regulations,
4. globalization.

These factors, that are the changes in their systems, have led to a change in the way customers make decisions and conduct the buying process. Technology plays a significant role in this. Mobile phones, numerous communication tools, social networks and Internet connection have changed the way customers buy, primarily because of the availability of information that customers now possess. They can be well informed
about products and services before they commence purchasing, to find out about prices, discounts, additional services and more, and to make a decision based on that information. Apart from information about the store and its assortment, customers can also evaluate the store on the Internet, which can further affect decisions made by other customers. Economics is an important factor because it directly affects customers. In recent years, economic developments have oscillated a lot, markets have been unstable and it all reflected on customers and vendors, in terms that both of parties needed to carefully use available resources, whether for the purchase or the investment in promotion and additional services. The aim was to provide financial stability and security. Deregulation and increased competition in many countries force retailers and manufacturers to find more creative ways to do business with everyone involved in the purchasing process (Kopalle et al., 2009). Trade and advertising regulations can be a problem for companies, especially for internationally oriented companies that must follow the regulations of each country in which they operate. When faced with high competition, they have to be innovative and find new ways to communicate with customers. Globalization “enables retailers to develop into powerful and innovative companies” (Krafft and Mantrala, 2008; Reinartz, Dellart, Kumar, Kumar and Varadarajan, 2011). Globalization has linked the entire world into a single whole and allowed access to many markets, but not all the companies managed to survive on the global market. Companies sometimes do not count on the power of global enterprises that do not plan to tolerate more competition than the one they already have. On the other hand, companies that are only breaking into global markets must offer something different, new and interesting to customers, that is, to attract attention, which is not always easy.
Apart from observing these factors individually, it is imperative to take into account their synergistic effect on purchasing behaviour, that is, on buyers’ decisions. Technology, economics, regulations, globalization, and the synergy they create affect the behaviour of customers, that is, at all stages of the buying process/cycle. As shown in the Figure, those phases are:

- research - gathering information about the characteristics and prices of products and services over the Internet, mobile applications, social networks and more,
- evaluations - analysing prices and characteristics of products and services between different stores,
- choice of category and brand - decision making about the purchase of certain products and services,
- shop selection,
- choice of moving through the store - implies that customers move through the store in the direction that will lead them to the products they have chosen; at this stage, it is very important that the store knows the behaviour of customers in
order to place some other products on the way of their moving through the store, thus indicating the buyer to buy more products than he planned,

- purchase and
- post-buying stage - at this stage customer satisfaction can be seen in a way that they opt for one of three actions: to return the product (not satisfied), to re-buy from the same vendor (happy) and to recommend the store to others (very satisfied with it).

Apart from the fact that they influence changes in customer behaviour before, during, and after the purchase, these four key drivers also affect the innovations that retailers introduce in order to keep existing and attract new customers. It may be necessary to introduce innovation into many spheres, such as the atmosphere of shops, shop design, the digitization of certain process, measuring the effect of shopper marketing activities, the relationship between manufacturer and dealer as the dealer and the customer and more.

Traders must be aware that any change in the environment will affect customer behaviour in one way or another, and therefore they constantly need to monitor their environment in order to track customers and improve their shopping experience.

**PROBLEMS IN THE APPLICATION OF SHOPPER MARKETING**

Shopper marketing is a newer marketing concept, which has not yet developed all its potentials, and therefore still faces a number of problems in its application. Many of these problems stem from the fact that not all sellers are completely acquainted with it, but also from the often neglected fact that shopper marketing, like any other marketing tool, needs to be planned ahead and carefully implemented.

Famous consultants Hoyt and Swift (2014) highlight some of the shortcomings of shopper marketing, that is, problems that marketers can face in its application (Bogetić and Stojković, 2015):

- practice standards and training – shopper marketing is still not standardized, so many companies opt for its independent development in practice.
- organizational structure – shopper marketing has not yet gained its place in the organizational structure of the company, so there is a dilemma whether it should be treated as a marketing strategy, a branch of the sales department or company management department; consequently, the question of responsibility for its planning, implementation and control remains open.
- adequate evaluation of results – most companies do not measure the results of shopper marketing activities.
- e-shopper marketing – in most companies, e-shopper marketing is either very primitive, or does not exist at all.
In addition to the listed ones, there are several other problems that marketers have to face during the process of application of shopper marketing. First, there is a problem of selecting the target group toward which the activities of shopper marketing will be directed. It is very important that the store management knows toward which category of buyers they should direct their shopper marketing activities in order to achieve planned sales effects. Second, a poor selection of shopper marketing activities may result in their poor implementation. Special attention should be given to opting between e.g. discounts, coupons, display locations and more, in order to maximize the effect. Third, bad timing is also a problem that traders might face if they do not properly sort their goods according to seasons. For example, it would not be effective to focus the activities of shopper marketing on ice cream in December, instead of June-August period. The fourth, and perhaps most important point, is the lack of strategic planning and implementation of shopper marketing activities. Many traders view the effectiveness of shopper marketing in the short-term framework, ignoring the fact that this marketing tool, like any other, must be planned at a higher level. Customers usually browse the Internet, so they collect information regarding possible alternatives and their quality (Shankar and Kushwaha, 2010), but they buy in traditional shops (Verhoef, Neslin and Vroomen, 2007). Taking this into account, it becomes clear that shopper marketing must be strategically planned from the first stages of purchase (motivation to buy, search for information) to the purchase itself and after-sales activities.

The aforementioned problems of shopper marketing application should be considered as the starting point for their resolution, that is, as a basis for the correction of the existing defects and building new elements of this marketing tool as well.

THE COMPARATIVE ANALYSIS OF SHOPPER MARKETING INSTRUMENTS IN PHYSICAL AND ONLINE STORES

Shopper marketing is a new concept and process, and it has not been sufficiently explored yet, but the interesting fact remains that it has already been widely recognized as an important strategic and tactical part of the store’s operations. It is also interesting to note that, in a very short time, shopper marketing has improved its tools technologically. Modern business is not possible without the application of technical and technological achievements. Digitization has affected all spheres of business, social and private life. Through websites and mobile applications online, stores are slowly taking over classical (physical) stores, though not to such an extent to cause concern among classical traders, but certainly enough to make them invest more in their tactics to increase sales. There are many differences between online and physical stores, and one of the most important for a modern man, who does not have much time for shopping, is the speed of shopping, as well as the ability to do it from any place. With
this in mind, we will try to review the elements of shopper marketing that have an impact on sales in physical and online stores.

Customers like to go to the store, choose products, touch them, experience the atmosphere of the store; some of them consider shopping as a form of entertainment. Sellers, on the other hand, need to attract and retain buyers in a way to make the store a pleasant place, to have a supply that suits the needs of customers, and more. Previously in this paper we stated that there are several elements of shopper marketing: the characteristics of the store (atmosphere, organization of space, promotion, assortment and image of the store), customer characteristics (demographic, familiarity with the store, personal characteristics), characteristics of competition (national and/or store brand) product characteristics (perishable and non-perishable, luxurious and non-luxury, hedonistic and utilitarian). One or several of these elements that cause a sense of satisfaction with a particular store and the goods bought is important to every customer.

Bogetić, Stojković and Milošević (2016) conducted a survey of buyers who buy mostly in food retail stores in the territory of Belgrade, and came to the conclusion that eight factors have the most influence on the decisions and behaviour of buyers during the purchase: the location of the store, product range, sales staff, store hours, pleasant ambience, parking place, special labels, loyalty programs (loyalty cards). Among these factors, the location of the store was a key factor for the different customer profiles, the price was usually in the second place, while other factors were varied as to the place they occupied. It is interesting to note that, according to the research carried out by these authors, the price of products and the location of the store represent the most important elements of the shopper marketing. Nordfält, Grewal, Roggeveen and Hill (2014) made 12 experiments in which they explored the impact of various factors on customer satisfaction and the increase of purchases due to the impact of these factors on the customer. In the first experiments, they analysed the effect of signalling inside the store, from digital signs to physically set “movement signs” on the floor of the store. They came to the conclusion that directing customers using signs within the store influences the direction of their movement around the store, and concluded that it is possible to influence the customer to check out even those products they had no intention to buy. The way the products are displayed on shelves also significantly affects customers. In several experiments they conducted, it was found that the vertical positioning of the product gives better results than the horizontal one. In addition to these, the smell, lighting and promotions affect the volume of purchase and satisfaction. Poncin and Mimoun (2014) investigated the impact of the atmosphere on the volume of customer purchases and, as elements of influence, determined ambient factors (smell, music, noise, lighting, hygiene, temperature ...), design factors (allocation of space, movement through the store, displaying products, displays ...) and social elements (people present in the shop – other customers and sales staff, quality of interaction with others ...). These authors have pointed out that
in physical stores these factors play a very important role, and that the overall atmosphere of the store plays a key role in raising customer satisfaction. Kumar (2016) cited eight factors that significantly affect customer satisfaction and, therefore, are very important for shop sales. These are: the ambience of the shop (lighting, smell and music), discounts and customer loyalty, customer service inside the store (staff behaviour, promptness of service), shop working hours, installations for easier transportation of goods and customers (elevators, ramps), assortment of goods (variety of the same), cleanliness and hygiene of the store and products exhibition (on shelves or other forms of products displaying). Kumar came to the conclusion that these elements of shopper marketing significantly influence the increase in customer satisfaction and, consequently, the increase in the scope of their purchase and loyalty.

Shopper marketing in physical stores is mostly defined by the same elements, especially when it comes to grocery stores. Customer greatly values the atmosphere, assortment size, price range, kindness of the staff, but there are other elements that the buyers do not immediately notice but that subconsciously encourage them to purchase certain products or more products than planned, such as a display with those products, marking the path of movement, placing certain products on certain shelves, and more. Stores must know the behaviour of their customers and triggers for larger purchases, and define the interior of the store in a way to give an overall positive shopping experience in order to ensure loyal customers that tend to buy more than they planned.

The traditional way of shopping differs from online shopping in more than one element. Before the emergence of the Internet and modern online shopping, customers had the option of buying certain products from home by ordering. Teleshop offered one of these features, where people could see certain products, presented in detail in teleshop shows, and then order from their home, without the obligation to go to the store. Darian (1987) investigated buying “from home” and found 5 types of benefits that customers want to have when purchasing in this way:

1. reducing the time spent on shopping,
2. flexibility of time,
3. no physical effort,
4. reducing aggravating circumstances that customers may face during the purchase and
5. opportunity to get involved directly in impulsive shopping.

From the moment when online shopping entered the commercial scene as one of the fastest growing forms of trade, the researchers focused on various aspects of this new medium.

Today’s Internet shopping has many similarities with the so-called “buying from home”, but it also differs in certain things. First of all, there is the interactivity of the
environment they are in. Today’s Internet sites that offer certain products and services are trying to be as interesting as possible, with a lot of pictures, videos and icons in order to provide as much information as possible about the assortment they offer. It should be kept in mind that not every site is equally interesting, no matter how many of the elements we have listed it possesses. Choice of colours, font size, item layout, simple way of reaching the desired products and services, the possibility of making payments online, etc., are crucial. As the characteristics of the online store’s atmosphere emerged as an extremely important and interesting topic, the research questions began to appear: “Can the effects of an environment in physical stores that affect shopping behaviour and trade results in traditional trade be maintained in online trade context, and what is the role of the atmosphere in online shopping?” (Eroglu, Machleit and Davis, 2003). In 2000, same authors hypothesized that the atmosphere in online stores consists of information relevant for “low and high tasks”. Relevant information for high tasks include all elements of site description (verbal and pictorial) that appear on the screen and make it easier for the buyer to reach the goal of his purchase, and the relevant information for low tasks relate to site information that are relatively irrelevant to completion of the purchase goal. Information relevant for completing high tasks include product descriptions, pricing, terms of sale, product delivery and return policies, product images, site navigation and more, while relevant information for low tasks refers to colours, lines, backgrounds, writing styles and fonts, animation, music, sound, entertainment, images instead of items, website visit counter, awards, and more (Eroglu, Machleit and Davis, 2003). It should be kept in mind that not all of the elements of the atmosphere are present in online stores, such as smells, touch and taste, as it is the case in physical stores, so all other elements that can improve the atmosphere of online stores should be additionally improved.

Promotions in online stores are possible as well, but they need to be designed in the way they fit into the assortment offered and visually do not spoil the page layout. The width and depth of the assortment offered can attract or repel customers. The assortment can be made up of national or regional, international or world brands. Certain companies that have their own brand can open their own online store to sell only their brands. The image of the online store plays a big role as well. For example, Amazon, eBay or Alibaba are online stores with a distinctive image across the globe and enjoy great trust among online customers. Online shops are more visited by younger population, which has to do with the fact that the Internet, smartphones, social networks and, generally, modern technology are closer to younger generations than to the elderly. When it comes to the characteristics of the products that are offered, different online stores offer different types of goods.
Table 2: Shopper marketing instruments in physical and online stores

<table>
<thead>
<tr>
<th>ISM elements</th>
<th>Dimensions of ISM elements</th>
<th>Physical store</th>
<th>Online store</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Store characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atmosphere</td>
<td>Visual</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Auditory</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure in the store</td>
<td>Space on the shelves</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Store ambient</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aisle plan</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Promotion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assortment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image of the store</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Shopper characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Size of the household</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of the store</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal characteristics</td>
<td>Loyalty</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tendency to coupons</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impulses</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Competition characteristics</strong></td>
<td>National brand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand of the store</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product characteristics</strong></td>
<td>Perishable vs. non-perishable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Luxury and non-luxury</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hedonistic and utilitarian</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


It is not always easy for buyers to opt for shopping on the Internet or in online stores, because there are several risks they face. First of all, there is a financial risk in terms of credit card fraud. Buyers are usually very distrustful when they need to leave such data on websites. Furthermore, the buyer does not have the capability to examine or physically feel the product in a way it can be done in physical stores. Buyers must believe that they will be delivered what they have ordered. However, this is not always the case. Today, many online stores have been designed to deceive the naive customers in the way that they order one of the items from an online store, pay for it and then it does not get delivered or, if delivered, its quality proves to be poor, or they
receive some other product. In addition, customers are particularly sceptical when it comes to technical and technological products. Customers prefer to buy this type of product in physical stores, where they can always consult with staff about all those issues related to that product and its use, which some sites do not allow. The problem with online stores is also in reclamations. If there are some problems related to the goods delivered, the question is who to contact, to whom to return the package and complain regarding the goods.

The aforementioned characteristics of physical and online stores (presented through marketing elements in stores) indicate that every element of shopper marketing is important in both types of stores, where only the form of these elements is different. As can be seen in Table 2, each dimension of shop characteristics, customer, competitor and product characteristics is represented in these stores, except for certain segments that do not appear in online stores. The disadvantage of certain segments in online stores has to be replaced by some other segments or through greater use of other ISM elements in order to achieve the effect of physical stores.

**CONCLUSION**

Shopper marketing represents the exploitation of any kind of marketing stimulus in order to involve the consumer in the process of purchasing so that purchase can be accomplished. For this purpose, it is necessary to know the shopping behaviour, as well as the shopping process, so that we can approach shopper at the stage of motivation for a certain purchase. One of the main questions is where the “zero moment” of the shopping process is. If we generalize and divide the shopping process in pre-shopping, shopping and post-shopping stages, two questions emerge – what stage should be emphasized more than the other stages, and whether there is a need for emphasizing any stage in order to trigger the “zero moment” of the process. This depends on several factors such as shopping mission, type of shopper, and retail format, among other. If we look at this specific problem from the angle of physical and online stores, it seems that it is easier to detect the “zero moment” in online stores. The reason for this is the greater power of online promotion in favour of traditional methods of promotion. However, this is not the general case. Today, most of the retailers use both physical and online formats of appearance, and if they miss to trigger the “zero moment” at one of the stages, they will probably make success in other stages of shopping process.

The authors usually emphasize the differences between traditional and shopper marketing. These differences are reflected in several attributes, like principles, dominant focus, primary goal, etc. However, it is necessary to analyze whether shopper marketing is really something that differs so much from the traditional marketing. Traditional marketing offers some kind of shopper insights, too. For this matter, first we need to make a difference between a consumer and a shopper. Traditional marketing
is focused on customer, but one of the definitions of a shopper is that the shopper is in fact the consumer in shopping mode. Shopper marketing should be seen as the extension produced from the necessity of cooperation between suppliers and retailers. This cooperation is conditioned by fast-growing competition, and first it has to create a win-win situation for suppliers and retailers, and later to be upgraded to win-win-win situation for suppliers, retailers and shoppers. Shopper marketing depends on the characteristics of the company, shopper, competition and product. We cannot emphasize which of the mentioned characteristics are the most important, but we can conclude that only the synergy of internal characteristics (company, shopper and product characteristics) bring success. Competition characteristics cannot be controlled, but we can understand them as the initiator of shopper marketing.

Technology has a great influence on shopper marketing. Mobile shopper marketing brings in the new perspective of business. Smartphones are making the revolution in shopper marketing because of their possibilities and the growing number of their users. Today, retailers can create smartphone applications intended for connection with their shoppers. Later on, retailers can track their shoppers via smartphones from the moment the shoppers register to retailer’s wireless networks. Retailers can send messages or coupons to shoppers during their shopping trip. Social networks play a big role by encouraging consumption of certain products or the use of certain services. Integrated with mobile phone technology, social networks create the respectable power in creating the relations with shoppers. Retailers just have to “listen” to the social networks. The main problem of usage of mobile phones and social networks in the function of creating a good relationship between retailers and shoppers could be the fact that shoppers might be a little afraid of such an intimacy with retailers. As long as this tight relationship is productive, it can also become something that the shoppers are reluctant to do, because of the perception that retailers know their habits too well.

Shopper marketing is innovative in its character. Modern technology, the process of globalization, economic trends, and regulations that define specific issues, and which differ from one country to another, influence many of the innovations in shopper marketing. Their individual impact is not as great as the synergy produced by these elements together. Innovations can be related to space, ambience, marketing channels, etc. The most important thing is that innovations follow customer needs. In many studies the focus is on the point of sale instruments, and we can conclude that this is because of the fact that shopper marketing is often understood as marketing at the point of sale. In this sense, the shopping process might begin and end in the specific store. Retailers should direct their efforts to improving the elements of atmospherics, assortment, exposure in the store, promotion in the store and the image of the store.
From the previous we can suspect that shopper marketing, although being a great concept of business, has some problems in its usage. First, shopper marketing is not used on a large scale. In fact, we can say that only a small number of companies is using shopper marketing. Some of the companies use shopper marketing but they are unaware of it. Unfortunately, most of the companies have not adopted shopper marketing. One of the reasons for this small-scale usage of shopper marketing is the fact that shopper marketing is not institutionalized and standardized. Moreover, the big problem is the lack of adequate evaluation of results. The metrics of shopper marketing is not developed yet, and every attempt of metrics is developing independently from company to company. There are some initiatives to create the standardized metrics (PRISM) that will be commonly used by companies, but is yet to be fully developed and adopted.

By comparing physical and online stores, we have concluded that both are successful to the extent in which they apply the elements of shopper marketing. From the creation of the atmosphere to the assortment, brands offered, types of products and promotional activities, the goal of the store must be to approach customers in order to meet their needs and requirements. Due to the specific nature of the environment in which they operate, online stores use the aforementioned elements differently. For example, we cannot feel the scent or see the space on the shelf in the online store. It is an ungrateful job to compare shopper marketing in physical and online stores. The type of shopper also affects the point of sale instruments in physical and online stores. The assumption is that the online users are more educated and more sophisticated, so they respond to different stimuli than the average shopper that is buying exceptionally in the store. Common thing for physical and online stores is that they can both follow the SOR (stimulus-organism-reaction) model in creating the successful shopper marketing instruments. The conclusion is that retailers together with suppliers have to consider many factors before creating the shopper marketing instruments that will bring benefits to all three mentioned parties.

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THE GROWTH OF MULTICHANNEL APPROACH IN THE GLOBAL ELECTRONIC RETAIL MARKET

Jelena Končar*, Sonja Leković**

Abstract The processes of globalization and internationalization encourage the creation of new institutions in marketing channels in the global electronic market. Application of modern technological achievements assumed a key role in the policy of multichannel strategy and global market positioning. Competition within the global electronic market creates new formats and retail institutions that are customized for multichannel strategies. Technological innovations lead to changes in the functioning of marketing channels and to interactive communication in the global market. The global electronic market is becoming a place of more complex, strategic decision-making adapted accordingly to the dimensions of business of global electronic retailers. Internet retailing is changing consumer position in the global market and presents a new driving force in the development of electronic marketing channels. The growing needs of consumers demand high flexibility in the choice of channels, which points to the need for the diversity of multichannel offerings. Effective multichannel strategy affects the diversity of retail marketing channels. The internationalization of retailing, as the result of the global concentration of multichannel retailers, changes the structure of market and trade completely. Thanks to multichannel synergy, by using one channel efficiency and effectiveness of other channels are improved. By its nature, the market for electronic retail sales worldwide has various levels of development. There is a very significant and high positive correlation in the global electronic market among the population that uses the Internet. The countries with the largest Internet population are considered to be among the most developed in electronic retailing. Internet users from countries with above-average percentage of the total population that uses the Internet buy significantly more products and services in relation to the Internet users from countries with below-average percentage of total Internet population.

Global competitive advantage points to the importance of the new multichannel strategy of channel conflict management. Multichannel strategy has become a primary means for achieving sustainable competitive advantage through establishing long-term relationships with customers. Thanks to the strategies of new interactive Internet technology, the shape and structure of interrelations with customers change. The future of multichannel retail strategies is in mass customization technologies implemented by providing personalized customer service. Thanks to the new power of interactivity, web-based purchasing became the basis for better differentiation of products and services due to the rapid flow of information. In terms of global concentration, multichannel strategies in the global electronic market aim to achieve new competitive positions in the business of retailers.

Keywords: global electronic market, internationalization of retailers, multichannel, interactivity

JEL: M30; O33
Field: Economics

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1. INTRODUCTION

Modern marketing channels are formed as the result of globalization and internationalization in the global market. Global processes affect the new role of retailing in marketing channels. Multichannel strategies present the means for gaining competitive advantage for retailers in the conditions of market globalization and internationalization of retailers’ business. Internationalization of retailers changes the structure of market and trade completely. The global electronic market creates innovative formats of retailers and institutions of retailers that are adapted to modern multichannel business strategies. The questions that arise from the foregoing are:

- What are the trends of globalization of the retail market in the regions of the world?
- What is the relationship between internationalization and implementation of the multichannel strategy?
- Do multichannel retailers have above-average revenues from sales?
- How does the use of the multichannel strategy affect the appearance of multichannel consumer purchases of products?

Answering these questions, we tend to learn about the effectiveness of the multichannel strategy of retailers, in terms of increasing internationalization of their business, and about enhanced competition in the global electronic market. International expansion of multinational retailers transfers business experience in technology, organization and management to less developed countries. Technological innovations lead to interactive communication and global market positioning of retailers.

Managers of marketing channels nowadays focus on building a multichannel strategy, since more profit is generated in interaction with consumers through multiple channels, implementing technologies of mass customization with the use of personalized services. Hierarchical multichannel interrelations, vertical and horizontal, lead to the development of global strategies of retailers, where web-based purchases contribute to better differentiation of products and services.

2. GLOBALIZATION OF RETAIL MARKET

Globalization of markets creates changes in supply and demand. Competition among retailers is stronger, thanks to globalization. Internationalization of retail trade and overall trade is a direct consequence of globalization and integration of world markets (Lovreta, Končar & Petković, 2013, p. 568). Retailers see the benefits of expanding their business outside their markets, and large retailers are assuming an increasingly important role in marketing channels.

The value of retail sales in the global market is created under the influence of high internationalization of markets with intense retail competition. Intense competition
brings new strategic positioning and differentiation through a new multichannel strategy. Well-integrated multichannel strategy leads to connectivity between participants in marketing channels, reinforcing competition between retailers in the global market.

The impact of globalization on retail market is shown in Table 1 on the basis of the following indicators: the number of retail companies in the world, indicator of retail sales outside of the local market by the retailers in the region, the average number of countries where retailers have their own retail network and the percentage of retailers who do not employ the strategy of internationalization, but base their operations only in the domestic market. The first indicator shows that among 250 world’s largest retailers, 88 are from North America, 85 come from Europe, and 82 are based in the United States.

**Table 1: Globalization of the retail market in the regions of the world**

<table>
<thead>
<tr>
<th>Region/Country</th>
<th>Number of retailers</th>
<th>% of retail revenue from foreign operations</th>
<th>The average number of countries of operation</th>
<th>% of retailers who operate only in one market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa/Middle East</td>
<td>9</td>
<td>35.1%</td>
<td>11.3</td>
<td>0.0%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>59</td>
<td>10.7%</td>
<td>3.8</td>
<td>45.8%</td>
</tr>
<tr>
<td>China/Hong Kong</td>
<td>14</td>
<td>17.1%</td>
<td>4.1</td>
<td>57.1%</td>
</tr>
<tr>
<td>Japan</td>
<td>30</td>
<td>10.4%</td>
<td>4.4</td>
<td>40.0%</td>
</tr>
<tr>
<td>other countries</td>
<td>15</td>
<td>6.4%</td>
<td>2.4</td>
<td>46.7%</td>
</tr>
<tr>
<td>Europe</td>
<td>85</td>
<td>39.6%</td>
<td>16.0</td>
<td>17.6%</td>
</tr>
<tr>
<td>France</td>
<td>12</td>
<td>46.0%</td>
<td>30.8</td>
<td>0.0%</td>
</tr>
<tr>
<td>Germany</td>
<td>17</td>
<td>47.0%</td>
<td>15.9</td>
<td>5.9%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>15</td>
<td>16.6%</td>
<td>15.7</td>
<td>20.0%</td>
</tr>
<tr>
<td>other countries</td>
<td>41</td>
<td>40.6%</td>
<td>11.9</td>
<td>26.8%</td>
</tr>
<tr>
<td>Latin America</td>
<td>9</td>
<td>23.7%</td>
<td>2.7</td>
<td>33.3%</td>
</tr>
<tr>
<td>North America</td>
<td>88</td>
<td>13.6%</td>
<td>9.2</td>
<td>43.2%</td>
</tr>
<tr>
<td>USA</td>
<td>82</td>
<td>13.8%</td>
<td>9.7</td>
<td>41.5%</td>
</tr>
<tr>
<td>250 largest retailers</td>
<td>250</td>
<td>22.8%</td>
<td>10.1</td>
<td>33.2%</td>
</tr>
</tbody>
</table>


Highly internationalized business is recorded by the European retailers who have above-average percentage of sales outside of the local market, with differences in individual countries. Thus, for example, German and French retailers have over 45% of sales outside of the local market, while retailers in the United Kingdom have below
the average percentage of retail sales. On the other hand, the markets of Japan and the United States are characterized by high consumer purchasing power. Therefore, retailers in these countries are focused on the domestic market and their objectives are achieved only in the domestic market, which is why their percentage of sales outside of the local market is 10.4% and 13.8%, respectively, which is significantly below average. If we look at the number of countries where retailers have their own retail networks, Latin America has the lowest value of this indicator, followed by the Asia-Pacific region (China and Japan) and North America and the United States. Above-average representation in the market belongs to retailers from Africa and the Middle East, while this indicator is most pronounced among European retailers. French retailers operate in most markets in the world.

The indicator of the percentage of retailers that operate solely in the domestic market suggests that it refers only to a small number of retailers in Germany - 5.9%, while in France it is 0.0%. This indicates a high integration of EU markets, influenced by, among other things, regulations of the retail sector, which is uniform in all states of the EU, and therefore facilitates the expansion of the retail network outside the borders of the domestic market of each country.

3. THE ROLE AND IMPORTANCE OF THE MULTICHANNEL STRATEGY IN INTERNATIONALIZATION OF RETAILING

Globalization and intense competition increase retailers’ power in marketing channels. Global concentration of retailers is the basis without which the market cannot operate effectively, especially under the conditions of increasing globalization of the concept of customer relationship management (Končar & Leković, 2015, p. 362). The development of new technologies, globalization and international strategy focuses on building a competitive advantage for retailers in the market. Global concentration of retail forms is the basis of the growing saturation and globalization of the market.

The conditions of multichannel strategies globalization are created by internationalization of retail activities. In turn, channel managers are focused on building effective multichannel strategies, rather than single-channel ones, in response to the belief that firms earn more when they are connected to customers through more channels (Palmatier, Stern & El-Ansary, 2015, p. 314). Global multichannel retailers develop specific strategies that are based on new information technologies. This scenario, in which vertical channel partners use multiple routes to their horizontal end-users, implies a hierarchical multichannel relationship (Palmatier, Stern & El-Ansary, 2015, p. 314).

Retail market is characterized by integrity and diversity in the levels of market development in individual countries. The following table presents the biggest retailers with their sales revenue, growth of sales revenue, number of countries in which they have their retail network and revenue growth outside of the domestic market.
Table 2: The largest retailers by revenue in 2015

<table>
<thead>
<tr>
<th>Revenue rank</th>
<th>Retailer</th>
<th>Country of origin</th>
<th>Retail revenue in 2015 US$M</th>
<th>Retail revenue growth 2010-2015</th>
<th>Retail revenue growth 2010-2015</th>
<th>Number of countries of operation</th>
<th>% of retail revenue from foreign operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wal-Mart Stores, Inc.</td>
<td>USA</td>
<td>482,130</td>
<td>-0.7%</td>
<td>2.7%</td>
<td>30</td>
<td>25.8%</td>
</tr>
<tr>
<td>2</td>
<td>Costco Wholesale Corporation</td>
<td>USA</td>
<td>116,199</td>
<td>3.2%</td>
<td>8.3%</td>
<td>10</td>
<td>27.4%</td>
</tr>
<tr>
<td>3</td>
<td>The Kroger Co.</td>
<td>USA</td>
<td>109,830</td>
<td>1.3%</td>
<td>6.0%</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>4</td>
<td>Schwarz Unternehmensstreuhand KG</td>
<td>Germany</td>
<td>94,448</td>
<td>8.1%</td>
<td>7.4%</td>
<td>26</td>
<td>61.3%</td>
</tr>
<tr>
<td>5</td>
<td>Walgreens Boots Alliance, Inc.</td>
<td>USA</td>
<td>89,631</td>
<td>17.3%</td>
<td>5.9%</td>
<td>10</td>
<td>9.7%</td>
</tr>
<tr>
<td>6</td>
<td>The Home Depot, Inc.</td>
<td>USA</td>
<td>88,519</td>
<td>6.4%</td>
<td>5.4%</td>
<td>4</td>
<td>9.0%</td>
</tr>
<tr>
<td>7</td>
<td>Carrefour S.A.</td>
<td>France</td>
<td>84,856</td>
<td>3.1%</td>
<td>-3.1%</td>
<td>35</td>
<td>52.9%</td>
</tr>
<tr>
<td>8</td>
<td>Aldi Einkauf GmbH &amp; Co. oHG</td>
<td>Germany</td>
<td>82,164</td>
<td>11.5%</td>
<td>8.0%</td>
<td>17</td>
<td>66.2%</td>
</tr>
<tr>
<td>9</td>
<td>Tesco PLC</td>
<td>UK</td>
<td>81,019</td>
<td>-12.7%</td>
<td>-2.3%</td>
<td>10</td>
<td>19.1%</td>
</tr>
<tr>
<td>10</td>
<td>Amazon.com, Inc.</td>
<td>USA</td>
<td>79,268</td>
<td>13.1%</td>
<td>20.8%</td>
<td>14</td>
<td>38.0%</td>
</tr>
<tr>
<td>10 largest retailers</td>
<td></td>
<td></td>
<td>1,308,065</td>
<td>2.9%</td>
<td>4.2%</td>
<td>15.7</td>
<td>28.7%</td>
</tr>
<tr>
<td>250 largest retailers</td>
<td></td>
<td></td>
<td>4,308,416</td>
<td>5.2%</td>
<td>5.0%</td>
<td>10.1</td>
<td>22.8%</td>
</tr>
<tr>
<td>Share of 10 largest retailers in the total retail revenue of 250 largest retailers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The global concentration level can be seen through the participation of leading retailers. Table 2 shows that among the top ten retailers in the world, six come from the United States and four are European retailers. What is important to note is that the percentage of sales revenue from foreign operations is evident, indicating the importance of internationalization of retailers’ business. The percentage of sales revenue of the top ten retailers from foreign operations (28.7%) is well above the percentage of the 250 largest retailers (22.8%). Carrefour S.A. and Wal-Mart Stores, Inc. are retail companies that have their international strategies with their operations based in more than thirty countries.

Retailers from the Western European countries, the countries initiators of the integrated market of the European Union, especially Germany, France and the United Kingdom, are among the largest retailers in Europe. By integrating into the European Single Market for products and services, European retailers are getting a chance to expand their business outside their countries of operations. “Brick and click” companies that have a network of stores as their primary retail channel have also introduced online offerings (Laudon & Traver, 2017, p. 751). By using the multichannel strategy, retailers define the role of different marketing channels in specific markets and thus create a unique and distinctive position in relation to competitors in the market.

4. DEVELOPMENT OF RETAILERS’ MULTICHANNEL STRATEGY IN THE GLOBAL MARKET

Three modern business trends have dramatic influences on marketing channels, demanding adaptations or the innovation of new channel structures and strategies (Palmatier, Stern & El-Ansary, 2015, p. 316). First of all, competition puts pressure on retailers to ensure a higher level of integration with end-users, which is caused by the transition of services. Secondly, increasing saturation of the local market and increasing internationalization of access to retailers lead to changes in the global channel system. Thirdly, electronic commerce creates a new global electronic market where existing marketing channels must adjust their strategies. Electronic markets play a central role in the digital economy, facilitating the exchange of information, goods, services, and payments (Turban, King, Lee, Liang & Turban, 2012, p. 84). All this requires the development of a consistent multichannel strategy of retailers in the global market through the development of new technological capabilities and increasing internationalization of business.
Table 3: The largest electronic retailers that employ the multichannel strategy

<table>
<thead>
<tr>
<th>E-50 sales rank</th>
<th>Top 250 retail revenue rank</th>
<th>Retailer</th>
<th>Country of origin</th>
<th>E-commerce retail revenue in 2015 US$M</th>
<th>% of e-commerce retail sales in total retail sales in 2015</th>
<th>E-commerce growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>33</td>
<td>Apple Inc.</td>
<td>USA</td>
<td>24,368</td>
<td>46.5%</td>
<td>18.2%</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Wal-Mart Stores, Inc.</td>
<td>USA</td>
<td>13,700</td>
<td>2.8%</td>
<td>12.3%</td>
</tr>
<tr>
<td>5</td>
<td>46</td>
<td>Suning Commerce Group Co., Ltd.</td>
<td>China</td>
<td>8,095</td>
<td>37.1%</td>
<td>95.0%</td>
</tr>
<tr>
<td>6</td>
<td>92</td>
<td>Otto (GmbH &amp; Co KG)</td>
<td>Germany</td>
<td>7,181</td>
<td>68.0%</td>
<td>0.5%</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Tesco PLC</td>
<td>UK</td>
<td>6,539</td>
<td>8.1%</td>
<td>9.0%</td>
</tr>
<tr>
<td>9</td>
<td>97</td>
<td>Liberty Interactive Corporation</td>
<td>USA</td>
<td>5,146</td>
<td>51.5%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>10</td>
<td>35</td>
<td>Macy’s, Inc.</td>
<td>USA</td>
<td>4,850</td>
<td>17.9%</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>The Home Depot, Inc.</td>
<td>USA</td>
<td>4,690</td>
<td>5.3%</td>
<td>25.4%</td>
</tr>
<tr>
<td>12</td>
<td>25</td>
<td>Best Buy Co., Inc.</td>
<td>USA</td>
<td>4,000</td>
<td>10.1%</td>
<td>13.5%</td>
</tr>
<tr>
<td>13</td>
<td>19</td>
<td>Casino Guichard-Perrachon S. A.</td>
<td>France</td>
<td>3,756</td>
<td>7.3%</td>
<td>-2.4%</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>Costco Wholesale Corporation</td>
<td>USA</td>
<td>3,500</td>
<td>3.0%</td>
<td>17.6%</td>
</tr>
<tr>
<td>16</td>
<td>148</td>
<td>Home Retail Group plc</td>
<td>UK</td>
<td>3,040</td>
<td>47.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>17</td>
<td>65</td>
<td>John Lewis Partnership plc</td>
<td>UK</td>
<td>3,002</td>
<td>20.2%</td>
<td>13.1%</td>
</tr>
<tr>
<td>18</td>
<td>68</td>
<td>Nordstrom, Inc.</td>
<td>USA</td>
<td>2,832</td>
<td>20.1%</td>
<td>20.2%</td>
</tr>
<tr>
<td>19</td>
<td>52</td>
<td>Kohl’s Corporation</td>
<td>USA</td>
<td>2,800</td>
<td>14.6%</td>
<td>30.0%</td>
</tr>
</tbody>
</table>


The increases in global online business, especially in less developed countries, are due in part to the growing number of people using inexpensive devices, such as mobile phones and tablet devices, to access the Internet (Schneider, 2017, p. 14). Between the total population and the number of Internet users, i.e. the total percentage of the population that uses the Internet, there is a very high and significant positive correlation in the global electronic market. The countries with the largest Internet population are considered to be among the most developed in electronic retailing. Internet users from countries with above-average percentage of total population that uses the Internet buy significantly more products and services in relation to Internet users from countries with below-average percentage of total Internet population.
In order to examine the differences in the frequency of online shopping among the countries with below-average and above-average number of Internet users, we used an independent samples t-test. Variable percentage of Internet users is normally distributed (skewness = -0.17, kurtosis = -0.67) with the average percentage of Internet users being 81.61% (SD = 10.68). All countries that have a value lower than the average are classified as below-average countries in relation to the number of Internet users, while all countries that have a value higher than the average are classified as the countries of above-average category with regard to the number of Internet users. This variable is an independent variable (grouping variable), while the dependent variable represents the percentage of online shopping.

**Table 4: The difference in arithmetic means of the countries with values above and below the average with regard to Internet users in relation to the percentage of online purchases.**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>AS</th>
<th>SD</th>
<th>t-test</th>
<th>DF</th>
<th>P value</th>
<th>AS difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shopping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below average</td>
<td>13</td>
<td>28.92</td>
<td>10.90</td>
<td>-7.323</td>
<td>29</td>
<td>0</td>
<td>-34.30</td>
</tr>
<tr>
<td>Above average</td>
<td>18</td>
<td>63.22</td>
<td>14.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ own calculation.

The results presented in Table 4 point to the conclusion that in the countries with an above-average number of Internet users online shopping is higher and shows a statistically significant difference \( t(29) = -7.32, p < .001 \) relative to the countries with below-average percentage of Internet users \( (\text{AS}_{\text{diff}} = -34.30) \). Due to a small number of observations, a Mann-Whitney U test was also used to additionally test the above-mentioned difference. The results led to the same conclusion \( (Z = -4.47, p < .001) \).
Table 5: World Internet usage and population statistics, March 25, 2017 – update

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>1,246,504,865</td>
<td>16.6 %</td>
<td>345,676,501</td>
<td>27.7 %</td>
<td>7,557.2%</td>
</tr>
<tr>
<td>Asia</td>
<td>4,148,177,672</td>
<td>55.2 %</td>
<td>1,873,856,654</td>
<td>45.2 %</td>
<td>1,539.4%</td>
</tr>
<tr>
<td>Europe</td>
<td>822,710,362</td>
<td>10.9 %</td>
<td>636,971,824</td>
<td>77.4 %</td>
<td>506.1%</td>
</tr>
<tr>
<td>Latin America/ Caribbean</td>
<td>647,604,645</td>
<td>8.6 %</td>
<td>385,919,382</td>
<td>59.6 %</td>
<td>2,035.8%</td>
</tr>
<tr>
<td>Middle East</td>
<td>250,327,574</td>
<td>3.3 %</td>
<td>141,931,765</td>
<td>56.7 %</td>
<td>4,220.9%</td>
</tr>
<tr>
<td>North America</td>
<td>363,224,006</td>
<td>4.8 %</td>
<td>320,068,243</td>
<td>88.1 %</td>
<td>196.1%</td>
</tr>
<tr>
<td>Oceania/Australia</td>
<td>40,479,846</td>
<td>0.5 %</td>
<td>27,549,054</td>
<td>68.1 %</td>
<td>261.5%</td>
</tr>
<tr>
<td>WORLD TOTAL</td>
<td>7,519,028,970</td>
<td>100.0 %</td>
<td>3,731,973,423</td>
<td>49.6 %</td>
<td>933.8%</td>
</tr>
</tbody>
</table>

Source: http://www.internetworldstats.com/stats.htm

Pearson correlation coefficient was used to examine the relationship between the number of Internet users and the size of the population for seven regions of the world. The results suggest the conclusion that the relationship between these variables is extremely high, positive and statistically significant (r = .97, p < .001).

5. EMPIRICAL RESEARCH

Research on the growth of multichannel retail approach was conducted in nine examined markets, analyzing the ten largest retailers and e-retailers. The analysis was performed by applying marketing methods of desk research conducted by analyzing financial reports of retailers, taking into consideration their sales revenue in 2013, product categories they sell and other general characteristics (origin, whether they have electronic retailer not, electronic retailing type they apply). In the primary research of multichannel consumer purchases, 816 respondents from nine examined markets participated, 600 of which, as it was primarily planned for the survey and ultimately used for the analysis, are respondents who make purchases or make decisions about purchases (age group 15 to 65 years). Place of research was the territory of the Republic of Serbia, Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Slovakia, Ukraine. Based on the subject of research, the following hypotheses were defined about the growth of multichannel approach in the electronic market:
H1: Multichannel retailers have above-average retail revenue.

H2: Application of multichannel strategy affects the appearance of consumers’ multichannel approach in purchasing a product.

In order to prove the first hypothesis, H1, retailers were analyzed with regard to the types of electronic retailing for each market, which pointed to the conditions for the implementation of certain types of electronic retailing, both regarding the types of electronic retailing that have the highest value of retail revenue in certain markets and the level of all tested markets. To examine which type of electronic retailing (“pure play”, “brick and click” or multichannel) achieved the highest revenue in the individual market, but also at the level of all examined markets, descriptive statistical methods were used.

The results suggest that the “pure play” type of electronic retailing achieved the highest revenue in all markets except in Serbia, where revenue was mostly generated by the “brick and click” type of electronic retailing. When it comes to the revenue level, depending on the type of electronic retailing and the level of all examined markets (without the most developed market of Germany), the “pure play” type of electronic retailing achieved the highest revenues, while at the level of all examined markets multichannel retailers have the highest retail revenues, based on which H1 is confirmed. This indicates that multichannel retailers have above-average retail revenue from sales at the level of all examined markets.

In order to prove the second hypothesis, H2, about multichannel approach to consumer purchases, the categories of products that consumers purchase in a retail store based on the information in the electronic retail have been identified, and have been differentiated from the rest of the retailers’ offers based on the evaluation of product categories.

To differentiate categories of products about which consumers use the Internet to find information, but purchase them in retail stores, the frequency analysis was applied in two steps. First, consumers were questioned about the importance of the connection between the response about purchasing of products (yes/no) and finding information about products in electronic retailing for the same categories of products (yes/no). Then, they were compared with regard to the frequency of individual combinations of answers (find information, but do not purchase; find information and purchase; do not look for information) for individual product categories.
Table 6: Average retail revenue of different types of retailers

<table>
<thead>
<tr>
<th>No.</th>
<th>Country/region</th>
<th>Type of retailers</th>
<th>Retail revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Austria</td>
<td>“pure play”</td>
<td>36,275,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>36,275,000.00</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>“pure play”</td>
<td>2,230,333,333.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>352,000,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>749,800,000.00</td>
</tr>
<tr>
<td></td>
<td>Slovakia</td>
<td>“pure play”</td>
<td>8,152,418.56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>1,199,493.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serbia</td>
<td>“pure play”</td>
<td>675,116.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>1,359,926.42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Croatia</td>
<td>“pure play”</td>
<td>10,472,800.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>5,584,800.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hungary</td>
<td>“pure play”</td>
<td>10,000,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>4,666,666.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>5,000,000.00</td>
</tr>
<tr>
<td></td>
<td>Bulgaria</td>
<td>“pure play”</td>
<td>2,709,800.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>330,600.00</td>
</tr>
<tr>
<td></td>
<td>Ukraine</td>
<td>“pure play”</td>
<td>76,971,950.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>48,521,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Romania</td>
<td>“pure play”</td>
<td>67,369,714.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>4,921,213.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>1,018,182.00</td>
</tr>
<tr>
<td></td>
<td>Region</td>
<td>“pure play”</td>
<td>164,720,974.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>34,008,346.96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>243,860,698.88</td>
</tr>
<tr>
<td></td>
<td>Region– without Germany</td>
<td>“pure play”</td>
<td>23,883,768.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“brick and click”</td>
<td>3,723,427.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>multichannel</td>
<td>13,888,289.27</td>
</tr>
</tbody>
</table>

Source: Authors’ own calculations.

The results are shown in Table 7 and suggest that the categories of products about which consumers use the Internet to find information, but make purchases thereof in retail stores are: books (C = .13, p < .01, 49.5%), clothing (C = .14, p < .01, 46.7%), hardware (C = .09, p < .05, 49.1%), software (C = .17, p < .001, 45.91%), video (C = .13, p = .51, 44.89%) and office equipment (C = .19, p < .001, 44.39%).
Table 7: Multichannel approach to consumer purchases – relations between finding information on the Internet and purchasing products in retail store

<table>
<thead>
<tr>
<th>No.</th>
<th>Product categories</th>
<th>Online purchase</th>
<th>Find information, but do not purchase (%)</th>
<th>Find information and purchase in electronic retailing (%)</th>
<th>Do not look for information (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Coef. C</td>
<td>p level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Books</td>
<td>0.13</td>
<td>0.002</td>
<td>20.0</td>
<td>49.58</td>
</tr>
<tr>
<td>2</td>
<td>Clothing</td>
<td>0.14</td>
<td>0.001</td>
<td>38.9</td>
<td>46.74</td>
</tr>
<tr>
<td>3</td>
<td>Technical equipment</td>
<td>0.04</td>
<td>0.368</td>
<td>35.2</td>
<td>51.75</td>
</tr>
<tr>
<td>4</td>
<td>Hardware</td>
<td>0.09</td>
<td>0.022</td>
<td>39.3</td>
<td>49.08</td>
</tr>
<tr>
<td>5</td>
<td>Software</td>
<td>0.17</td>
<td>0.000</td>
<td>36.8</td>
<td>45.91</td>
</tr>
<tr>
<td>6</td>
<td>Video</td>
<td>0.13</td>
<td>0.001</td>
<td>34.0</td>
<td>44.89</td>
</tr>
<tr>
<td>7</td>
<td>Food</td>
<td>0.08</td>
<td>0.051</td>
<td>64.4</td>
<td>12.69</td>
</tr>
<tr>
<td>8</td>
<td>Perishable products</td>
<td>0.15</td>
<td>0.000</td>
<td>80.6</td>
<td>7.51</td>
</tr>
<tr>
<td>9</td>
<td>Household products</td>
<td>0.13</td>
<td>0.002</td>
<td>55.7</td>
<td>17.86</td>
</tr>
<tr>
<td>10</td>
<td>Cosmetics</td>
<td>0.23</td>
<td>0.000</td>
<td>40.9</td>
<td>35.73</td>
</tr>
<tr>
<td>11</td>
<td>Furniture</td>
<td>0.02</td>
<td>0.659</td>
<td>53.4</td>
<td>31.39</td>
</tr>
<tr>
<td>12</td>
<td>Products for children</td>
<td>0.39</td>
<td>0.000</td>
<td>56.3</td>
<td>26.54</td>
</tr>
<tr>
<td>13</td>
<td>Office equipment</td>
<td>0.19</td>
<td>0.000</td>
<td>33.0</td>
<td>44.39</td>
</tr>
</tbody>
</table>

Source: Authors’ own calculations.

Based on the conducted research and results thereof, the H2 hypothesis could be confirmed, which indicates the existence of multichannel approach to consumer purchases, and that consumers are moving through different retail channels in the process of making decisions on purchases and shopping, as characteristic of purchasing for certain product categories.

6. CONCLUSION

Retailing in the global market is created under the influence of internationalization of markets with intense competition. Intense competition is achieved by positioning and differentiation strategies with multichannel approach. The impact of globalization on the retail market is proved by the indicators of percentage of retail revenue generated in the local market by retailers in the region, the average number of countries where retailers have their own retail network and the percentage of retailers who do not implement the strategy of market internationalization, but base their operations only in the domestic market. Among the top ten retailers in the world, six come from the United States and four are European retailers. The percentage of revenue from sales produced outside the country of operations is evident, indicating the importance of internationalization in retailer’s business. Retailers from the Western
European countries, the countries initiators of the integrated market of the European Union, especially Germany, France and the United Kingdom, are among the largest retailers in Europe. By integrating into the European Single Market for products and services, European retailers are getting a chance to expand their business outside their countries of operations. The ratio of the level of Internet use and purchases on the Internet at the global level shows that in countries with an above-average number of Internet users, it is significantly more common to make the purchase online than in the countries with below-average percentage of Internet users. The relation between the number of Internet users and the size of the population in seven regions of the world is extremely high, positive and statistically significant. In the analysis of the retail strategy in the global electronic market, the results indicate that the “pure play” type of electronic retailing generated the highest revenue in all markets except in Serbia, where most revenue is produced by the “brick and click” type of retailers. When it comes to revenue level, depending on the type of retail sales in all examined markets (with the exception of the most developed market of Germany), the “pure play” type of electronic retailing yielded the highest revenues, while, at the level of all examined markets, multichannel retailers had the highest sales revenues. Survey results point to the emergence of multichannel approach to consumer purchases, and to consumers moving through the different retail channels in the process of making decisions on purchases and shopping.

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IMPACT OF INNOVATION ON TRADE DEVELOPMENT
– EVIDENCE FROM SERBIA

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Abstract: Innovation is one of the basic characteristics of trade in developed market conditions. Almost no sector of the economy is subject to such intense changes as trade. In a large number of countries, trade develops in line with production and consumption, and its role in economic development is constantly increasing, i.e. what is increasing is its share in gross domestic product, gross value added, and employment. Continuous strengthening of the role of trade in the economy is the result of numerous factors, where innovation occupies a special place. This thesis is illustrated by the latest report on the largest retail chains, which emphasizes the fact that the acceptance of innovation is imperative for trading companies in modern conditions. Innovation in trade may take multiple and diverse forms, and is shaped through the application of new business models, implementation of new management and marketing developments in relationships with suppliers and customers, all the way to the application of modern technology in business improvement. Based on these facts, the research subject in this paper is innovation, diversification of innovation, and its application in the trade sector, with a particular focus on the trade sector in Serbia. Research question revolves around the economic effects of introducing innovation in the business of trading companies, this issue attracting considerable attention of theoreticians and practitioners in the field of trade, retail, trade management, and trade marketing. Accordingly, the hypothesis to be tested in the paper states that the introduction and application of innovation in trading companies’ business in Serbia has positive effects on their financial performance. This hypothesis will be tested with reference to a sample of 100 most successful trading companies (judging by sales volume) operating in the market of the Republic of Serbia. Based on the available data and using relevant statistical methods, the aim is to examine the impact of innovation on the development of trade sector in Serbia. Research results will trace future directions in theoretical and practical research of these issues. Key words: innovation, trade, retail, financial performance, Serbian market

JEL classification: L81, M1, O39
Field: Economics

1. INTRODUCTION

Trade, especially retail, has in recent years faced a number of challenges and dilemmas. In order to respond to these challenges, trade continuously monitors changes in the environment, adapts to them, but also affects them. In terms of the current economic and financial crisis, such a response from trade becomes quite pronounced, especially in the monitoring and implementation of innovations. In this way, trade continuously proves itself as an innovation-intensive sector of the economy. On the
other hand, diffusion and proliferation of innovations in trade is another of its hallmarks. Accordingly, innovation is a permanent topic in theoretical and empirical studies, and is viewed from different aspects. What these studies have in common is the elaboration of innovation as an imperative to trading companies’ operations. Based on the results of the research on the development and introduction of innovation in trade and retail, the subject of this study is the analysis of various types of innovation in trade, with a particular focus on the growing importance of technological innovation. The aim is to examine how innovation affects the performance of trading companies. Starting from the defined research subject and aim, the paper is divided into two parts. The first part of the work gives theoretical explication of innovation in general and innovation in trade, with a focus on information and communication technology in trade. The second part uses a multiple regression model to test the hypothesis on the positive impact of innovation on business performance of trading companies on a defined research sample.

2. REVIEW OF LITERATURE

2.1. MULTIDISCIPLINARY APPROACH TO DEFINING INNOVATION

The term innovation has, in the last twenty years, become a keyword in the title of a large number of scientific papers in the field of entrepreneurship, management, and strategic management, both in foreign and in domestic literature. It is a literary term that often refers to different content.

Studies in the field of innovation and innovative management show that economists have analyzed different meanings of innovation over a longer time period. Thus, Schumpeter (1912), the famous economist, relates innovation to a new set of outcomes, such as the introduction of new products, new production methods, new markets, new sources of supply, and new organizations from any sector of the economy. Thereby, according to Schumpeter, these outcomes are dependent on entrepreneurial behavior, which suggests that innovation is essentially a “non-technological” and “entrepreneurial” process of assigning resources available for new use. Relying on this definition, economists go on to interpret innovation as a radical technological change (Baregheh et al., 2009).

In the most basic sense, innovation is an idea successfully applied in practice, so that the contemporary understanding of innovation, in addition to production, encompasses all areas of human activity, including non-economic spheres of life where one also discovers and applies new solutions that raise work efficiency and quality of life (Cvetanović & Mladenović, 2015).

Furthermore, innovation is any system of organized and purposeful actions, aimed at creating change (new product, production process, organizational structure, man-
agement style, etc.). Etymologically, the term innovation is derived from the Latin word *innovare*, meaning *to make something new*. Innovation, in fact, is improvement of technology. Innovation is a new product, service, process, technology created using one's own or other people's results of scientific and research work, discoveries, and knowledge, through one's own concept, idea, or method of its creation, which is, with an appropriate value, placed on the market. Peter Drucker (1991) points out that “innovation is an act that endows resources with a new capacity to create wealth. Innovation, in fact, creates a resource. There is no such thing in the world as a “resource” until a man finds a use for something in nature and endows it with economic value. Until then, every plant is only a weed, and every mineral just another rock. Not much more than a century ago, neither mineral oil seeping out of the ground nor bauxite, the ore of aluminum, were resources. They were nuisances; both render the soil infertile”.

Innovation increases wealth production potential. Given that today the two most valuable resources in the economy are time and information, innovation mostly focuses on them. Every innovation that increases the available time (by reducing the time required to perform specific processes) or gives more information allows one to create more. Of course, one should take into account that innovation is not necessarily of a technical nature. Innovation does not even have to be physically tangible.

Bearing in mind the above, it can be seen that innovation appears in various forms, which indicates that it is not easy to give it a uniform conceptual definition. Categorization of innovation by different criteria could be helpful to determine and investigate innovation as a whole more precisely.


The Oslo Manual (2005) on measuring innovation gives the following division: product/service innovation, process innovation, organizational innovation, and marketing innovation. Product innovation refers to the introduction of a product that is new or considerably improved with regard to its characteristics or purposes. A company designs a new product because it can: be the source of competitive advantage, improve corporate image, strengthen marketing/brand, provide opportunities for enhancing or changing the strategic direction, and provide a return on investment and a favorable impact on human resources.

Service innovation is significant because the economic effects of services are very large, bearing in mind that services in the developed OECD economies produce two thirds of new value and account for two thirds of employment. Service is the output
of the technological system and the result of input transformation, which, as a “pure” service, represents an intangible product that cannot be stored, but is “consumed” when produced (Jovanović, 2003). Services have four characteristics that affect service innovation: intangibility, inseparability, variability, and perishability. Service innovation is specific, given that services create intangible output, so services can be said to be “the production of the intangible”. Services are characterized by inseparability (simultaneity), as they tend to be produced and used simultaneously.

Process innovation is the use of new or improved production methods, which may consist of changing the equipment, changed software, organization, production technology. Process innovation is aimed at increasing efficiency, i.e. lowering costs per unit of product (examples of process innovation: introduction of new equipment – lasers, sensors, automated equipment, digitization of the printing process, etc.).

Organizational innovation is the implementation of a new organization method in the company (examples of organizational innovation: changing the organization of jobs, forming teams to improve operations, introduction of product quality standards, etc.).

Marketing innovation refers to the implementation of a new marketing method, involving significant changes in product design, positioning, promotion, or price of the product (examples of marketing innovation: introduction of direct or exclusive sales, using the method of variable product prices, promotion of a new trademark, advertising new products, etc.).

According to the criterion of the nature of innovation, there are two large groups (Jovanović, 2003):

Radical (substantial) innovation refers to large improvement at the level of the state of technology. Substantial innovation results in completely new products, services, or processes. It can be represented as a process in which the line of research is well-known, but the end result is not available.

Incremental (evolutionary) innovation is the use of small changes in the technological know-how. Evolutionary innovation results in small improvements. It can be illustrated as problem solving where the objective is clear and well-known, but the solution is coming to it.

Innovativeness, as a feature of an organization, is organization’s openness to change, successful change management, and successful acceptance of changes. Innovativeness is characteristic of companies involved in the adoption of new ideas and that quickly react to impulses from the environment. Organizational innovativeness is a necessary condition for successful functioning in order to achieve long-term business success, i.e. profitability and competitiveness (Adams et al., 2006; Bessant & Tidd, 2007).
2.2. MEANING AND TYPES OF INNOVATION IN TRADE AND RETAIL

From the standpoint of trade and retail, innovation is increasingly gaining importance, both in the field of scientific research and in the area of new practices and standards for the development of techniques that will be able to (Hauser et al., 2006; Pantano et al., 2013): 1) increase consumer experience, 2) respond to a rapidly changing environment, 3) develop new strategies to increase market share, and 4) make effective use of existing resources.

Unlike product innovation, service innovation is less tangible or is based on technology, so it is more difficult to define and measure it. Even though literature has developed numerous models of service innovation (Gadrey et al., 1995; Evangelista, 2000; Miozzo & Soete, 2001; Michel et al., 2008), it can be seen that service innovation remains underexplored. This applies particularly to retail trade, where literature in the field of innovation is relatively new and divided (Hristov & Reynolds, 2015). Nevertheless, the latest publications set a theoretical framework for further research. Particularly illuminating are research results reached by Reynolds and Hristov (2009), relating to the nature and frequency of obstacles to the introduction of innovation in the retail sector. These authors have come to the conclusion that retail is one of the most innovative sectors in the developed market economies. In this regard, they identify organizational and regulatory obstacles to the introduction of innovation in retail at the level of economy, while at the company level they see obstacles in financing costs and economic risks of innovation.

Closely related analysis of innovation in retail can be found in the research by Reinartz et al. (2011), focusing on the division of innovation in terms of market. According to these authors, innovation in retail can particularly be seen in terms of: 1) saturated markets, 2) less developed markets, and 3) emerging markets. Tables 1, 2, and 3 illustrate the challenges and opportunities to innovate in retail, in terms of market types, in the context of consumers, sectors, and challenges to legal regulations.
Table 1: Innovations in retailing in mature markets

<table>
<thead>
<tr>
<th>Environmental climate</th>
<th>Innovation challenge</th>
<th>Potential dimensions of retailing innovation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer-based challenges</strong></td>
<td>• Changing demographics</td>
<td>• Real-time listening (MR process)</td>
<td>• Best-Buy – listening in online</td>
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<td></td>
<td>• IT-integrated lifestyles</td>
<td>• Multichannel integration</td>
<td>• J. Crew – personal shopper</td>
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<td></td>
<td>• Lower mobility and income</td>
<td>• Product design (private labels), supply chain (access)</td>
<td>• Build-A-Bear, Nike – mass customization</td>
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<td></td>
<td>• Heterogeneity in taste</td>
<td>• Co-creation development and supportive online purchase environments</td>
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<td></td>
<td>• Individualization</td>
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<tr>
<td><strong>Legal/ regulatory-based challenges</strong></td>
<td>• Sustainability-related issues</td>
<td>• Green innovations</td>
<td>• Sainsbury’s – electric vans</td>
</tr>
<tr>
<td></td>
<td>• Dynamics of economics in regional clusters</td>
<td>• Economic sustainability</td>
<td>• Walmart – eco-ratings</td>
</tr>
<tr>
<td><strong>Industry-based challenges</strong></td>
<td>• Low barriers to entry</td>
<td>• Non-imitable innovations</td>
<td>• Ruelala – unique discounts</td>
</tr>
<tr>
<td>Competition</td>
<td>• Expansion of store brands</td>
<td>• First-mover advantage</td>
<td>• Disney – Partnering</td>
</tr>
<tr>
<td></td>
<td>• Vertical competition</td>
<td>• Adaptability</td>
<td>• Zara – high-speed supply</td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td>• Outsourcing and offshoring</td>
<td>• Global sourcing and alliances</td>
<td>• Walmart – global partnering</td>
</tr>
<tr>
<td></td>
<td>• Disintermediation</td>
<td>• Multichannel routes to market</td>
<td>• Apple, Adidas, Nike – manufacturer stores</td>
</tr>
<tr>
<td></td>
<td>• Vertical integration by producers</td>
<td>• Process coordination across multiple partners</td>
<td></td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>• E-commerce</td>
<td>• Integration between online and in-store sales and shopping experiences</td>
<td>• Sears – multichannel communications</td>
</tr>
<tr>
<td></td>
<td>• M-commerce</td>
<td>• Real-time data and new data warehouse tools</td>
<td>Metro – RFID innovation center</td>
</tr>
<tr>
<td></td>
<td>• Social media networks</td>
<td>• Design of new shopping experiences (online and in-store)</td>
<td>• Apple – concept stores</td>
</tr>
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<td></td>
<td>• Radio frequency identification (RFID)</td>
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</table>

Table 2: Innovations in retailing in emerging markets

<table>
<thead>
<tr>
<th>Environmental climate</th>
<th>Innovation challenge</th>
<th>Potential dimensions of retailing innovation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer-based challenges</td>
<td></td>
<td></td>
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<tr>
<td>• Rising middle-income class</td>
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<tr>
<td>• Increasing urbanization, megacities</td>
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<tr>
<td>• Younger class of population</td>
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<tr>
<td>• Greater density of population</td>
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<tr>
<td>• Spreading good/service offerings across a continuous distribution of income levels</td>
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<tr>
<td>• Offering variations in package sizes to cater to the younger class</td>
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<tr>
<td>• Aligning brands and customers</td>
<td></td>
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<tr>
<td>• Tiered pricing structure catering to various income levels</td>
<td></td>
<td></td>
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<tr>
<td>• Value packs and services for various market segments</td>
<td></td>
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<tr>
<td>• Storing the right product in the right store at the right time</td>
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<tr>
<td>• Airtel (India) – assorted pricing structure</td>
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<tr>
<td>• Beijing Xidan Department Store (China) – strategic product placement</td>
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</table>

| Legal/regulatory-based challenges |
| • Liberalized government regulations |
| • Interstate rules and regulations |
| • Stability in governments – constantly changing government policies |
| • Negotiating local content requirement clauses |
| • Competing in an environment of differences in official/business language and frequent changes in policies |
| • Strategic partnerships and alliances with local players |
| • Localized packaging vendors |
| • Business agility in adapting to changing policies |
| • Walmart and Bharti – India |
| • Huiyuan Juice and Coca-Cola (failed acquisition) – China |
| • Globus (India) – increased responsiveness |

| Industry-based challenges |
| • Large companies diversifying into retail industry |
| • Presence of a large unorganized retail sector |
| • International companies entering the markets |
| • Creating competitive advantage through thorough data collection and mining |
| • Creating unique brand identity to differentiate from the smaller and more disorganized retail units |
| • Gathering more comprehensive market intelligence reports |
| • Encourage local endorsements to create a sense of ‘belonging’ with the consumer segment |
| • Focused research to study core, organized and unorganized players |
| • Pepsi, Coca-Cola |
| • Tesco, Carrefour |
| • Foschini Chain, South Africa |
### Table 3: Innovations in retailing in less developed markets

<table>
<thead>
<tr>
<th>Environmental climate</th>
<th>Innovation challenge</th>
<th>Potential dimensions of retailing innovation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
<td>• Poor transportation infrastructure • Limited access to supplier network</td>
<td>• Streamlining supply chain • Optimizing distribution networks • Outsourcing to other markets</td>
<td>• Reliance Petroleum Ltd. – India • Tesco and Samsung (Homeplus supermarkets) – South Korea</td>
</tr>
<tr>
<td>Technology</td>
<td>• Limited application of IT • Lower penetration of credit cards • Leapfrogging generations of technology, relatively high interest in technology</td>
<td>• Rethinking and applying IT for Business Intelligence • Focusing on cashless transactions and mobile technology</td>
<td>• Reliance Retail (SAP Implementation) – India</td>
</tr>
<tr>
<td>Consumer-based challenges</td>
<td>• High disparity in income levels • Increasing inflation rates • Lack of basic amenities</td>
<td>• Positioning and developing goods and services for distinct income levels • Providing subsidies by partnering with foreign companies to mitigate the limited consumer spending power</td>
<td>• Petrojam, Jamaica • Starbucks</td>
</tr>
<tr>
<td>Legal/regulatory-based challenges</td>
<td>• Unstable governments • Lack of central economic focus • International debtor</td>
<td>• Tailoring offerings to suit the local environment • Leveraging available subsidies from developed nations</td>
<td>• Oriental Weavers Carpets Co. • Fertilizer Retail in West Africa</td>
</tr>
<tr>
<td>Industry-based challenges</td>
<td>Environmental climate</td>
<td>Innovation challenge</td>
<td>Potential dimensions of retailing innovation</td>
</tr>
<tr>
<td>---------------------------</td>
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<td>---------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Competition</td>
<td>•Cartelization of retail industry •Decentralized and unorganized retailing environment •Many very small retailers</td>
<td>•Entering into multiple market territories in the region simultaneously •Gathering comprehensive market intelligence</td>
<td>•Enable strategic business partnerships through larger retail chains •Focus research on individual market dynamics</td>
</tr>
<tr>
<td>Suppliers</td>
<td>•Lack of infrastructure •Poor distribution networks •Bad credit structure</td>
<td>•Investing in supply chain •Integrating backward and partnering with suppliers •Building trust in vendor-supplier relationships</td>
<td>•Stockpile inventory and develop own supply network •Leverage on availability of real estate</td>
</tr>
<tr>
<td>Technology</td>
<td>•Banking/currency infrastructure non-existent •Consumers without bank accounts</td>
<td>•Enabling small ticket payments •Enabling alternative modes of payment</td>
<td>•Payment by mobile phone</td>
</tr>
</tbody>
</table>


Research presented in the tables emphasizes different ways of practical application of innovation in the trade sector, especially in retail, through changes in trade (retail) institutions, characteristics of innovation, innovation results, as well as through a variety of functional changes and new sales technology in the retail sector. These facts suggest the existence of three types of innovation in trade (Ćuzović et al., 2017). The first to come to the fore is the so-called institutional innovation. It concerns comprehensive innovation in trade, especially referring to innovation in certain retail institutions, such as department stores, supermarkets, discount stores, etc. The second group refers to the so-called functional innovation, which is manifested in the execution of functions or segments of business activities in a trading company. The latest research indicates the growing importance of the so-called technological innovation in trade, which is the implementation of the results of scientific and technical progress in trade and retail.
Division of innovation into these three groups has been verified in the works of a number of authors. So, institutional innovation has attracted the attention of a number of researchers. Thus, for example, Levy et al. (2005), Mitchell (2010), and Sorescu et al. (2011) continue the tradition of studying institutional changes in retail, exploring the factors and forms of innovation models in trade and retail. Their studies show that retailers are active co-innovators in their value chains, and that innovation has a large impact on the performance of retail chains.

The second group of researchers focus on innovation in specific functional areas, such as retail planning, product development, shopper marketing, packaging, pricing, promotion, and logistics (Reynolds et al., 2005; Grewal et al., 2011; Shankar et al., 2011). Exploring functional innovation, these authors focus on innovation in the development of green products, process of cooperation between trade and manufacturers, as well as on effects of innovation on company performance.

The third group of authors examine the impact of new sales technology, such as self-service technology and application of RFID, on productivity, operational processes, and consumer behavior (Bennett & Savani, 2011; Azevedo & Carvalho, 2012). The results of their research show that dealers adopt new technology and new innovation strategy as a means to improve competitiveness, increase market share and business performance.

2.3. THE GROWING IMPORTANCE OF TECHNOLOGICAL INNOVATION IN TRADE

Modern information and communication technology and its application in trading companies and other business systems’ operations is a basic business feature at the beginning of the 21st century. The development of information and communication technology has led to the convergence of traditional forms of business, on the one hand, and information technology, on the other hand. In recent years, the use of information and communication technology has become quite intense in the sector of trade and retail. The motive for its application is found in the improvement of business performance, competitive advantage, customer satisfaction and loyalty.

Based on the technical characteristics, the latest technological solutions in trade and retail can be classified into three groups (Pantano & Viassone, 2014): 1) touch screen displays/in-store totems, 2) systems for mobiles (mobile applications), and 3) hybrid systems.

The first group of technological solutions refers to the use of the 3D body scanning system for trying on clothes, which is a self-service technology (SST) based on automated and interactive consumer access without staff assistance, leading to reduced costs and greater efficiency of servicing. The second group of technological solutions includes application systems for consumers’ mobile phones. These systems provide interactive content and services that enrich consumer experience by providing de-
tailed and personalized information, such as electronic payment models or automatic search by wish list, possibility of virtual comparison of selected products with others, and so on. Therefore, a number of companies offer consumers free mobile applications for finding the best products while shopping in physical stores. The third group of technological solutions relates to the use of technology that allows consumers easier movement through stores, such as RFID (Radio Frequency Identification) and intelligent shopping carts. Their application provides consumers with more information and locates the desired products, which leads to time savings when shopping.

The growing diffusion of information technology is increasingly leading to trade digitization (Hagberg et al., 2016). Digitalization itself indicates the implementation of digital technology in business and everyday life (http://www.businessdictionary.com/definition/digitalization.html).

From the standpoint of trade and retail, the emergence of digital technology, especially the Internet, leads to the development of the multichannel retailing strategy. However, in recent years, the concept of multi-channel retailing has gradually shifted to the so-called omnichannels (Brynjolfsson et al., 2013; Pantano & Viassone, 2015; Verhoef et al., 2015). Table 4 showsthe difference between the management of multichannels and omnichannels.

**Table 4: Multichannel versus omnichannel management**

<table>
<thead>
<tr>
<th></th>
<th>Multichannel management</th>
<th>Omnichannel management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel focus</td>
<td>Interactive channels only</td>
<td>Interactive and mass communication channels</td>
</tr>
<tr>
<td>Channel scope</td>
<td>Retail channels: store, online website, and direct marketing (catalog)</td>
<td>Retail channels: store, online website, and direct marketing, mobile channels (i.e. smart phones, tablets, apps), social media customer touchpoints (incl. mass communication channels: TV, radio, print, C2C, etc.)</td>
</tr>
<tr>
<td>Separation of channels</td>
<td>Separate channels with no overlap</td>
<td>Integrated channels providing seamless retail experiences</td>
</tr>
<tr>
<td>Brand versus channel customer relationship focus</td>
<td>Customer – Retail channel focus</td>
<td>Customer – Retail channel – Brand focus</td>
</tr>
<tr>
<td>Channel management</td>
<td>Per channel</td>
<td>Cross-channel</td>
</tr>
<tr>
<td>Objectives</td>
<td>Channel objectives (i.e. sales per channel, experience per channel)</td>
<td>Channel objectives (i.e. overall retail customer experience, total sales over channels)</td>
</tr>
</tbody>
</table>

It is important to emphasize that the concept of multichannel involves the separation of channels (although combined), while the concept of omnichannel is more focused on consumers and on providing opportunities to move between “channels” seamlessly within an integrated purchasing process.

3. RESEARCH METHODOLOGY

3.1. DATA

Starting from the previous theoretical explication, the research question that arises is whether it is possible to construct an econometric model which links innovation in trading companies to their financial performance, i.e. business performance indicators? In line with this research question, the following null and alternative hypotheses are defined:

H₀: Implementation of innovation in trading companies does not have a positive impact on business performance indicators.

H₁: Implementation of innovation in trading companies has a positive impact on business performance indicators.

Testing these hypotheses involves defining a sample and time frame of observation and selection of research methods and parameters to be observed. In further research, trading companies have been observed in the period from 2012 to 2016. This five-year period is long enough to provide valid observations, and also represents a period marked by both expansion and contraction of the level of economic activity. As far as research method is concerned, multiple regression is used, relying on panel data analysis. The sample consists of 100 companies engaged in retail trade, with the exception of motor vehicles and motorcycles (code G47 in the official nomenclature of activities). The structure of the sample in terms of size consists of 66 micro-companies, 32 small companies, one medium-sized and one large company. This sample structure largely illustrates the structure of companies engaged in retail trade in Serbia. Specifically, in 2016, out of 13,010 active and classified business entities with a dominant activity code starting with G47, there were 12,308 micro-companies, 611 small companies, 69 medium-sized companies, and 22 large companies. Initially, the sample was composed of 150 companies, but only 100 of them participated in the survey. The list of 100 companies in the sample was composed of the ones that submitted their financial statements to the Business Registers Agency before 28 February 2016 and were at the top from the perspective of generated operating income in 2016 in the retail sector. The reason for the selection of companies that submitted their financial statements lies in the fact that, in addition to the survey, official financial statements have been a source of information in the study.
The parameters observed in a defined time interval were adjusted to the research question. In this regard, performance was monitored by revenue per employee in millions of RSD. The decision to analyze revenue per employee was based on the fact that the companies in the sample were of different sizes, so revenue per employee and their productivity were aspects that adequately reflected the company’s performance. Data on revenue per employee for all 100 companies in the observed years was taken from official financial statements. Revenue per employee was the dependent variable in the research. On the other hand, the independent variable referred to the implementation of innovation in trading companies/enterprises. Information on the application of innovation in the analyzed companies were obtained on the basis of the survey. It is interesting that 62% of surveyed business entities introduced innovation to their operations in some of the observed years, while 38% of them did not do that at all. Innovation structure by type in companies that introduced it was as follows: 43% introduced technological innovation, 51% introduced functional innovation, while 6% introduced the so-called institutional innovation. In order to answer the research question, the use of innovation was defined as a dummy variable. This means that, in the years when the surveyed companies applied some type of innovation, the value of the dummy variable was 1, while in other years, when there was no application of innovation, the value of this variable was 0. This data was obtained through an electronic survey, available at the link https://goo.gl/forms/6dEdqOLA1bwK85Ik2.

In addition to the aforementioned independent variable, control variables were introduced to the model, and, in accordance with the theory, they contribute to improving the performance of trading companies. The first control variable was return on assets (ROA), the second was accounts receivable, and the third was the current ratio. The data on values of these variables in the observed companies for the analyzed years was obtained from the official financial statements.

As pointed out, the analysis of 100 companies used a multiple regression model, so the number of companies was \( i = 1, \ldots, 100 \). These companies were observed over a period of 5 years, \( t = 1, \ldots, 5 \). Panel data was used for the regression model, which reads:

\[
y_{it} = \alpha + x_{it} \beta + c_i + u_{it}
\]

(1)

where: \( y_{it} \) is the dependent variable, \( \alpha \) is a constant, \( K \) is a dimensional row vector related to the independent and control variables, \( \beta \) is the column vector of parameters with independent and control variables, \( c_i \) is the specific effect of the observed company, and \( u_{it} \) is the residual. If one takes into account the fact that the number of years observed is 5, then \( T = 5 \), so that all observations for each company are summarized by the following matrices:
dependent variable $y_i$ is displayed by means of matrix: 

$$
\begin{bmatrix}
    y_{i_1} \\
    \vdots \\
    y_{i_3} \\
    \vdots \\
    y_{i_5}
\end{bmatrix}, \quad y_i = [5 \times 1]. \quad (2)
$$

For independent variable $X_i$, the matrix would look like this:

$$
\begin{bmatrix}
    x_{i_1} \\
    \vdots \\
    x_{i_3} \\
    \vdots \\
    x_{i_5}
\end{bmatrix}, \quad X_i = [5 \times 4], \quad (3)
$$

for observing 1 independent and 3 control variables in the regression model.

The matrix of the residual in the analyzed model would be:

$$
\begin{bmatrix}
    u_{i_1} \\
    \vdots \\
    u_{i_3} \\
    \vdots \\
    u_{i_5}
\end{bmatrix}, \quad u_i = [5 \times 1]. \quad (4)
$$

If the last analyzed companies in a series is marked by $N,a (N = 100)$ and the last observed year $t$ with $T,a (T = 5)$ then NT can represent all observations in all companies for the entire period of observation.

Dependent variable $y$ is shown as a matrix: 

$$
\begin{bmatrix}
    y_1 \\
    \vdots \\
    y_i \\
    \vdots \\
    y_{100}
\end{bmatrix}, \quad \text{row} y = [NT \times 1]. \quad (5)
$$
Independent variable X is displayed as a matrix: 
\[ X = \begin{bmatrix} X_1 \\ \vdots \\ X_i \\ \vdots \\ X_{100} \end{bmatrix}, \text{row } X = [N T \times 4]. \quad (6) \]

Residual \( u_i \) is represented by a matrix: 
\[ u = \begin{bmatrix} u_1 \\ \vdots \\ u_i \\ \vdots \\ u_{100} \end{bmatrix}, \text{row } u = [N T \times 1] \quad (7) \]

The question that arises from the model shown in equation 1 is whether there is correlation between residual \( u_i \) (which contains a specific effect of the observed company \( c_i \)), on the one hand, and the independent variable, on the other hand. Mathematically speaking, the question is whether \( E = (u_i \mid X_i, c_i) = 0 \) when there is no correlation or \( E = (u_i \mid X_i, c_i) \neq 0 \) when correlation exists.

In theoretical terms, this is a multiple regression model with random or fixed effect (Schmidheiny, 2015). Multiple model with random effect in this particular case would imply that the specificity of the observed company \( c_i \) is not correlated with the independent variable and that it changes over time independently of the company. This is an extremely rigorous assumption, very rarely applied in such research by economists. Multiple model with fixed effect means that the specificity of the observed company can be correlated with the independent variable and that it does not change over time, i.e. that it reflects the specifics of each company individually. This assumption is much more realistic and more prevalent in economic research. In this study, multifactorial model with fixed effect is applied, with appropriate statistical tests to check its validity in relation to the model with random effect.

3.2. RESULTS AND DISCUSSION

The results of the selected research method, multiple regression with fixed effect, are shown in Table 5.
Table 5: Multiple regression model with fixed effect

<table>
<thead>
<tr>
<th>Fixed effects (within) regression</th>
<th>Number of obs</th>
<th>464</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-sq: within</td>
<td>= 0.3133</td>
<td></td>
</tr>
<tr>
<td>between</td>
<td>= 0.3649</td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>= 0.3418</td>
<td></td>
</tr>
<tr>
<td>F (4, 360)</td>
<td>41.05</td>
<td></td>
</tr>
<tr>
<td>corr (u_i, Xb)</td>
<td>= -0.0940</td>
<td></td>
</tr>
<tr>
<td>Revenues per employee millions of RSD</td>
<td>Coef.</td>
<td>Std. err.</td>
</tr>
<tr>
<td>ROA</td>
<td>0.2095</td>
<td>47.59</td>
</tr>
<tr>
<td>Current ratio</td>
<td>-0.5421</td>
<td>332.99</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>0.0002</td>
<td>0.03</td>
</tr>
<tr>
<td>Innovation</td>
<td>9.3873</td>
<td>1,165.41</td>
</tr>
<tr>
<td>_cons</td>
<td>9.9785</td>
<td>836.35</td>
</tr>
<tr>
<td>sigma_u</td>
<td>8,819.69</td>
<td></td>
</tr>
<tr>
<td>sigma_e</td>
<td>6,183.26</td>
<td></td>
</tr>
<tr>
<td>rho</td>
<td>.670</td>
<td>(fraction of variation due to u_i)</td>
</tr>
<tr>
<td>F test that all u_i=0:</td>
<td>F (99, 360) = 6.62</td>
<td>Prob &gt;F = 0.0000</td>
</tr>
</tbody>
</table>

Source: Authors

Results obtained in Table 5 show that independent and control variables in the model are statistically significant. In other words, the hypothesis that the independent variable (implementation of innovation) is the determinant of the dependent variable (revenue per employee in millions of RSD) is accepted with a probability of 90%. F-test statistics has an adequate level of probability, indicating that all variable coefficients are different from zero, and that they have an impact on the dependent variable (in this case, revenue per employee). It should be emphasized that the correlation between the independent variable and the residual is different from zero, in this case -0.0940. This value shows that variables have been properly included in the constructed model. More specifically, if the independent variable determines the value of the dependent variable more effectively, then the value of the residual (statistical error) is slightly smaller.
Based on the above, it can be concluded that there is an adequate econometric model, which reads:

\[
(Revenue \ per \ employee \ in \ millions \ of \ RSD)_{it} = 0.2095(ROA)_{it} - 0.5421 \ Current \ ratio_{it} + 0.0002 Accounts \ receivable_{it} + 9.3873(Innovation)_{it} + 9.9785 + c_i + u_{it} (8)
\]

The results of the model shown in equation (8) indicate that, with the use of the cet-eris paribus clause (all else unchanged), if a company applies some form of innovation in one year, that causes the growth of revenue per employee by 9.3873 million dinars in that year. The present model is consistent with the theoretical postulates set forth and alternative hypothesis. The presented model has a determination coefficient \( R = 0.3133 \), meaning that it is valid in 31.33% of observations in 100 companies in the period from 2012 to 2016. A relatively low level of the coefficient of determination does not diminish the importance of proving the alternative hypothesis H1, which states that the application of innovation in businesses in the field of retail in Serbia has a positive impact on the dynamics of business activities.

Control variables further confirm the validity of the model. Specifically, they clearly indicate the generally accepted postulate in trade, that an increase in accounts receivable (favorable payment terms) and return on assets (ROA) makes it possible to increase revenue per employee in the business year. On the other hand, increase in the current ratio (enhanced due collection policy) may lead to a decline in revenue per employee in the business year.

#### 3.3. HAUSMAN TEST FOR MODEL ENDOGENEITY

The constructed multiple regression model first assumed that there was correlation between the residual \( u_{it} \) (containing a specific effect of the observed company \( c_i \)), on the one hand, and independent and control variables, on the other hand. Mathematically speaking, \( E = (u_{it} | X_i, c_i) \neq 0 \). More specifically, a multiple regression model with fixed effect has been constructed. This means that the specificities of the observed companies have an endogenous character, i.e. represent internal determinants of revenue per employee, and are correlated with independent and control variables (applied innovation, return on assets, accounts receivable, and current ratio). To confirm the validity of these assumptions, and, therefore, of the constructed econometric model, Hausman test is applied. The null hypothesis in this test states that there is no correlation between the residual \( u_{it} \) (containing a specific effect of the observed company \( c_i \)), on the one hand, and independent and control variables, on the other hand. In other words, the model with random effect should be used. An alternative hypothesis states that correlation does exist and that the model with fixed effect is adequate. To this end, the model with random effect is constructed (Table 6), and the results of the test are shown in Table 7.
Table 6: Regression model with random effect

<table>
<thead>
<tr>
<th>Random effects GLS regression</th>
<th>Number of obs</th>
<th>464</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group variable:</td>
<td>Company</td>
<td></td>
</tr>
<tr>
<td>R-sq: within</td>
<td>-0.290</td>
<td></td>
</tr>
<tr>
<td>between</td>
<td>-0.521</td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>-0.443</td>
<td></td>
</tr>
<tr>
<td>Obs per group: min</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>avg</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>max</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Wald chi2 (4)</td>
<td>251.43</td>
<td></td>
</tr>
<tr>
<td>corr (u_i, X, )</td>
<td>0 (assumed)</td>
<td></td>
</tr>
<tr>
<td>Revenue per employee in millions of RSD</td>
<td>Coef.</td>
<td>Std. err.</td>
</tr>
<tr>
<td>ROA</td>
<td>0.1704</td>
<td>43.56</td>
</tr>
<tr>
<td>Current ratio</td>
<td>-0.5189</td>
<td>291.06</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>0.0001</td>
<td>0.26</td>
</tr>
<tr>
<td>Innovation</td>
<td>13.1488</td>
<td>1,005.84</td>
</tr>
<tr>
<td>_cons</td>
<td>9.7311</td>
<td>997.44</td>
</tr>
<tr>
<td>sigma_u</td>
<td>6,232.58</td>
<td></td>
</tr>
<tr>
<td>sigma_e</td>
<td>6,183.26</td>
<td></td>
</tr>
<tr>
<td>rho</td>
<td>0.5039</td>
<td></td>
</tr>
<tr>
<td>Source: Authors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Results of the Hausman test

<table>
<thead>
<tr>
<th>- Coefficients -</th>
<th>(b) fixed</th>
<th>(B) random</th>
<th>(b-B) Difference</th>
<th>Sqrt (diag (V_b-V_B)) S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>209.45</td>
<td>170.46</td>
<td>38.98</td>
<td>19.13</td>
</tr>
<tr>
<td>Current ratio</td>
<td>-542.05</td>
<td>-518.91</td>
<td>-23.14</td>
<td>140.00</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>0.20</td>
<td>0.13</td>
<td>0.07</td>
<td>0.01</td>
</tr>
<tr>
<td>Innovation</td>
<td>9,387.33</td>
<td>13,148.87</td>
<td>-3,761.53</td>
<td>588.60</td>
</tr>
</tbody>
</table>

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreb
Test: Ho: difference in coefficients not systematic
chi2 (3) = (b-B) ` [(V_b-V_B) ^ (-1) ] (b-B) = 43.66
Prob>chi2 = 0.000
(V_b-V_B is positive definite)

Source: Authors

The results of the Hausman test, with a probability of 99.99%, reject the null hypothesis stating that the model with random effect is more appropriate. This clearly suggests that the alternative hypothesis is proved. More specifically, there is correlation
between the residual $u_i$ (containing a specific effect of the observed company $c$), on the one hand, and independent and control variables, on the other hand. Mathematically speaking, $E = (u_i|X_i,c_i) \neq 0$. This means that the constructed multiple regression model with fixed effect is entirely acceptable.

In this manner, the hypothesis that the application of innovation in trading companies has a positive impact on performance indicators, measured by revenue per employee, has been tested and proved. The constructed multiple regression model clearly shows that, with the ceterisparibus clause, in a selected group of companies in the analyzed period, the application of innovation in trade in one year affected the intensification of revenue per employee in the same year.

3.4. LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The research and its results make theoretical and practical contributions to the scientific fields of trade, retail and trade management, especially regarding permanent introduction of innovation to trading companies’ operations. However, this study has some limitations. First, the sample size, and, therefore, the number of observations were relatively small. Second, the sample structure, in terms of company size, was dominated by micro and small companies. Third, many of the companies at the time of research did not submit their financial statements, which is why they were not included in the analysis. Furthermore, research results and confirmation of the hypothesis apply only to the observed research sample. Also, relatively low coefficient of determination indicates that the constructed regression model is applicable to 33.3% of companies. Finally, the research observed innovation and its impact on performance as a whole, without a separate observation of institutional, functional, and technological innovation. Thus, defined constraints may be the subject of future research.

4. CONCLUSION

Based on the abundant and varied literature in the field of innovation, the conclusion has been reached that it is a basic feature of doing business in modern conditions. Trade, particularly retail, has favorable predisposition for the application of innovation, so the focus is increasingly more on its innovation-intensive character. In addition, theory and practice offer different approaches to defining and division of innovation in trade and retail. This paper has been an attempt to display innovation in trade in a comprehensive manner. The subject of the specific analysis has been information and communication technology in trade, and the so-called digitalization of trade and retail. In this context, an increasing shift from multichannel to omnichannel retailing has been identified, with a larger focus on customers and on providing opportunities to move between “channels” in a seamlessly integrated
purchasing process. The second part used a multiple regression model to, based on a
defined research sample, test the hypothesis that innovation has a positive impact on
the financial performance of trading companies. The sample consisted of 100 trading
companies, which participated in the survey, and, which, at the time of research,
submitted their official financial statements. The appropriate methodology applied
proved the hypothesis that the application of innovation in trading companies has
a positive impact on business performance, measured by revenue per employee.
The constructed multiple regression model clearly shows that, with the ceteris pari-
bus clause, in a selected group of companies in the analyzed period, the application of
innovation in trade in one year affected the intensification of revenue per employee
in the same year. This paper also pointed to certain limitations of the conducted re-
search, which can pose implications for future analysis and study.

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RESOLVING THE CONFLICTS BUILT IN MATRIX STRUCTURES

Biljana Bogićević Milikić*

Abstract: Competitive environments are becoming both more diverse and more dynamic, so, in many industries, a growing number of companies find it necessary to match their strategic approach with turbulent and multifaceted environments, and exploit multiple business strategies. An adequate structural response to versatile environments has shown to be a matrix structure. Matrix structure is characterized by the following features: a dual command system and continuous balancing of power between functional and team managers; high degree of vertical and horizontal delegation of authority with unclear hierarchies; low vertical specialization with simultaneous use of advantages of narrow and wide horizontal specialization – functional expertise and wider specialization within teams; and developed coordination mechanisms of mutual adjustment. As such, matrix structure brings many high returns such as increased flexibility and quick adaptation to changing market and technical requirements, more effective resource allocation, increased innovation through promotion of intense lateral communication, higher motivation and job satisfaction of employees, etc. Apart from its numerous advantages, matrix structure suffers from severe weaknesses, and built-in conflicts and paradoxes, since numerous interdependencies in matrix organizations imply more communication between parties, which multiplies the chances for the development of tensions and conflicts. In this paper, we attempt to address those conflicts and possible ways for resolving them in order to provide for a more effective use of matrix design.

Keywords: matrix organization structure, dual command, coordination mechanisms, lateral communication

JEL: M10, M19
Field: Business

1. INTRODUCTION

In parallel with extremely fast globalization and major advances in technology, competitive environments are becoming both more diverse and more dynamic (Reeves et al. 2015), thus turning out to be “hypercompetitive” (Ilinitch et al., 1996; Eisenhardt, 1989). In many industries, a growing number of companies find it necessary to match their strategic approach to the turbulent and multifaceted environments they face, and exploit multiple business strategies, which, in turn, requires the use of complex organizational structures (Bartlet & Ghoshal, 1990), those which are best suited to the need to successfully manage complex businesses (Galbraith, 2009). An adequate structural response to versatile environments has shown to be a matrix structure, since more and more MNCs adopt some type of matrix, as international strategies become more complex (Wolf & Egelhoff, 2013). Furthermore, 2015 Gallup survey in-

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dictates that 84% of the US employees surveyed were matrixed to some extent – they may work on multiple teams every day, reporting to the same or different managers.

According to Vantrappen and Wirtz (2016), most discussions about the matrix structure usually quickly devolve into a debate between two sides: those who love to hate the matrix, and those who hate to love the matrix. There is growing evidence that matrix structures are notably adequate for complex international business organizations, which are gaining more and more significance in modern economy (Galbraith & Kazanjian, 1986; Galbraith, 2009; Galbraith, 2013). On the other hand, managers often find matrix structures ambiguous, confusing and inefficient (Gold & Campbell, 2003). Attempting to simultaneously organize around contrasting goals is bound to increase conflict between the parties representing those goals (Wolf & Egelhoff, 2013), since numerous interdependencies in the matrix structure imply more communication between the parties, which multiplies the chances for the development of tensions; conflicts are also more likely to occur, since employees from different functional units often have different attitudes, perspectives, and orientations (Davis & Lawrence, 1977, p. 104). Joyce (1986) suggested that matrix structure represents a kind of a social experiment, since implementing matrix structure increases the quantity of communication, but decreases its quality and has multiple negative effects on relevant role perceptions, work attitudes, and coordination. Further, Ford and Randolph (1992) proposed a number of paradoxes between the advantages and disadvantages of a matrix structure. Since there is much disagreement between the authors with regard to advantages and disadvantages of matrix structures, while large MNCs continue exploiting matrix structures in running their complex operations, in this paper we seek to identify and address the conflicts and paradoxes associated with the exploitation of matrix structure in practice and to explore different approaches to resolve them and make the matrix structure more effective.

2. DEFINING A MATRIX STRUCTURE

A matrix is a kind of organizational structure which is created around two or more organizational dimensions, such as: functions, products, regions, programs, etc. It may be defined as an overlap between functional and project hierarchy (Turner, 1998) or as “a ‘mixed’ organizational form in which a normal hierarchy is overlaid by some form of lateral authority, influence, or communication” (Larson & Gobeli, 1987). It is “[…] any organization that employs a multiple command system that includes not only a multiple command structure but also related support mechanisms and an associated organizational culture and behavior patterns” (Davis & Lawrence, 1977, p. 3). Therefore, it is often called “the network of relationships”. This type of structure comprises advantages of both functional and market grouping and, as such, it represents a type of hybrid structure (Fligstein, 1985) and, therefore, an organic design (Jones, 2004, p. 183). Matrix structure has been developed to meet the needs
of a large and complex organization which requires a structure more flexible and technically oriented than the functional structures.

Matrix structure emerged during 1960s from the American aerospace industry (Larson & Gobeli, 1987), and became especially popular during 1970s and 1980s (Bartlett & Ghoshal, 1990). The Federal Government contract selection process in the U.S. required a project-oriented system directly linked to top management, so aerospace companies established a set of horizontal project teams over their traditional vertical functional lines (Knight, 1977), converting the vertical functional authority toward a hybrid, function-by-project, organization (Fligstein, 1985). However, after the first wave of matrix structure implementation in 1970s, which turned out to be unsuccessful and caused a dramatic fall in matrix popularity, “by the mid-1980s, it was hard to find anyone to defend matrix management” (Gottlieb, 2007, p. 8). Many organizations gave up this concept, at least officially (Kramer, 1981), so the literature on matrix design from the mid-1980 until 2000 was predominantly judgmental. Despite the association with numerous tensions and potential deficiencies, Galbraith (2009) reported a growing interest in matrix structures in many companies due to their numerous advantages.

The rationale behind the introduction of matrix structure, as summarized by Grubemann (2017), may be found in the following: (a) increased organizational complexity regarding its size and technology (Knight, 1976); (b) characteristics of external environment with regard to its diversity, complexity, uncertainty and rate of change (Ford & Randolph, 1992); (c) character of the task regarding its complexity, duration, degree of novelty, urgency, risk and importance (Grochla & Norbert, 1978); and (d) motivational and ideological reasons (Knight, 1976).

A matrix structure presents an organizational form in which traditional hierarchy is overlaid by some form of lateral authority, influence, or communication (Kuprenas, 2003). This overlay generates two chains of command – one along the functional lines, the other along the project (product) lines (Gobeli & Larson, 1986). As such, matrix structure has the potential for simultaneously achieving both strong focus on different strategic priorities and conflicting goals (e.g. low cost vs. high quality or fast response vs. high quality).

The basic logic of a matrix structure is to enable the organization to simultaneously respond to two groups of contradictory requests. The first request is to allow the organization to quickly respond to the environmental changes through project, program, region, or product managers. The second request refers to the organizational need to create a high level of functional expertise through employment of the functional experts.

A matrix structure is quite flat with a very small number of hierarchical levels within different corporate functions and decentralized authority (Jones, 2004, p. 183). The
employees in corporate functions are directly subordinated to their functional managers, although they do not work under their direct supervision. Instead, the scope of activities and performances of the employees in different corporate functions are determined by their membership in different inter-functional teams led by product, project, or regional managers. Teams are formed during the negotiation process between functional and team managers. Team members are experts performing different corporate functions. It is often the case that references from the “old” team members are highly valued when selecting new team members.

Team members are usually called “the employees with two bosses”, since they have at least two supervisors: the functional manager and the team manager. Functional managers are commonly responsible for the following activities: placing experts in different teams, creating conditions for continuous improvement of knowledge, abilities and skills of functional experts, and monitoring their performance with regard to professional standards in specific areas (Hatch, 1997). On the other hand, team managers are responsible for the following set of activities: product, project, region, or program management, budgeting and controlling, meeting deadlines, achieving planned goals, team performance management, etc.

Many authors suggest that matrix structure multiplies the capacity for information handling and decision-making within organizations by establishing formal lateral channels of communication that complement and supplement existing hierarchical channels (Davis & Lawrence, 1977; Galbraith, 2009). Creating lateral communication channels violates classical management principles in relation to unity of command and scalar chains of authority (Joyce, 1986). In addition, lateral communication also complicates delegation of authority by making responsibilities unclear and ambiguous, thus promoting increased role conflict and ambiguity and producing negative effects on work attitudes such as job satisfaction and involvement (Butler, 1973).

3. TYPES OF MATRIX STRUCTURES

There are different typologies of matrix structures. Early typology originates from the work of Galbraith (1971) and Larson & Gobeli (1987), who defined three forms of matrix organization: (1) functional matrix, (2) balanced matrix, and (3) project matrix. The logic behind this typology is that the authority of functional managers decreases from the functional, to the balanced, to the project matrix. According to authors, the project matrix is recognized as the most effective, so managers interested in the development of new products favor it. Some authors argue that the most criticism of matrix organizations is focused on the balanced and the functional matrix (Larson & Gobeli, 1987).

Other researchers explained the evolution of matrix structures as a developing process covering five stages: (1) a traditional/functional hierarchy, (2) a temporary proj-
ect overlain by a dominant functional hierarchy, (3) a permanent project overlain/functional matrix organization, (4) a mature/balanced matrix organization, and (5) going beyond matrix/unique forms. Regarding its distinct setting and related business needs, any organization may stop its evolution or interrupt it at any point (Galbraith, 1971; Lawrence & Davis, 1977; Kolodny, 1979).

However, recent literature makes a distinction between different types of matrix organizations on the basis of the number of dimensions it combines. Thus, the most frequent type of matrix structure is certainly the simple (standard, two-dimensional) matrix, which has numerous variations in practice (Galbraith, 2009). This type of matrix is frequently present in almost all organizations. Functional experts are recruited from vertically positioned corporate functions to become members of a number of project, program, product or geographical teams. In this way, the structure obtains the matrix shape (see Figures 1, 2 and 3).

In historical context, project organization is considered the forerunner of the matrix structure (Kolodny, 1979). The vertical dimension of matrix is created around corporate functions whereas the horizontal dimension is built around project teams (see Figure 1).

Project organization has quite an unstable structure due to the limited duration of different projects – it is necessary to accomplish goals within a limited time frame, under limited budget and there is a set of performance standards to be attained. After goals have been achieved, the project is finished, and the project team is disbanded.

**Figure 1: The example of the project organization**
A *product matrix* emerged after the project organization (see Figure 2). To some extent, it represents a more stable structure than the project organization. Product managers are expected to create conditions for the organizational development and product profitability as long as they can. Product manager is some kind of a General Manager at a lower level responsible for the entire business, its profit and losses, its future potential and current functioning.

**Figure 2**: The example of a product matrix structure

At this development stage, some support systems are built into the matrix structure, such as: (a) dual evaluation and reward systems – employees are evaluated by both functional managers and team managers, who have different incentives to motivate the employees; (b) dual accounting and controlling systems – by functions and by products; (c) continuous team building and interpersonal skills trainings; (d) intense exchange of information through frequent meetings; (e) planning system which enables managers to become strategically and operationally accountable; (f) more general job descriptions (Kolodny, 1979).

After the development of the product matrix structure, “the true matrix structure” appeared. It is a more stable structure with more complex behaviors of organizational members and it shows a strong need for continuous coordination of activities.
Many companies adapted the two-dimensional matrix to their needs and developed the following variations: (1) the two-hat model and (2) the baton pass model (Galbraith, 2009).

The “two-hat” model appeared in companies which could not afford to have a large number of vice presidents – for functions and for products/clients/regions. In order to keep a dual focus, the companies modified a standard matrix structure in such a way to provide their managers with two “hats”, i.e. to delegate to them two types of responsibilities simultaneously: for function and for product or region (see Figure 4). Galbraith (2009) suggests numerous reasons why different companies choose this model, as follows: (1) small companies choose the two-hat model to reduce the costs of hiring many account managers, (2) the model reduces disputes, since each manager is well acknowledged and understands how to manage accounts in his or her region, (3) the model builds stronger teams, since managers are more independent and more willing to collaborate, (4) sometimes it is a more preferable model in authoritarian cultures, etc. (pp. 41-43). Potential problems associated with the two-hat model are the following: (a) overload on regional managers, who may focus more attention to their regions than to the national account, (b) leaders may never become a team and may not work together successfully, since independence of regional managers does not automatically imply their close cooperation, (c) sometimes regional managers do not have the necessary expertise to lead both a region and a national account, (d) the number of regions and number of accounts may differ radically, which may destroy the balance within the two-hat matrix which works best when each manager wears both hats (p. 44).
The baton pass model is also a modification of a simple matrix created by companies which needed to manage their specific challenges. It is often found in companies which have extremely long product life, which is why in different stages of the cycle managers are faced with quite different challenges and requirements. Therefore, each stage of product life cycle requires different leaders and teams. For example, during the development phase product team is led by a R&D manager, during the sale phase it is led by a marketing manager, and so forth. This is often the case in pharmaceutical industry, where drug life cycles are very long, so it is often necessary to have different leaders and teams in different stages.

The matrix within a matrix is a type of design where a matrix structure spans several levels of the whole structure, so the matrix repeats itself and has to be led at multiple hierarchical levels. There are at least three variations of this design (Galbraith, 2009, pp. 64-69):

1. sub-project manager design (where subproject specialty managers are employed within corporate functions),
2. the two-hat model within selected corporate functions (when it is difficult, if not impossible, to organize a function around projects or products; for example, operations is usually difficult to align by product), and
3. the product-function matrix model (in which two new managers are added as sub-product managers having no subordinated employees and are intended to coordinate across the operations functions to get their product to market and to make sure that orders are met and capacity is available).

Figure 4: Two-hat matrix
Apart from the abovementioned types of matrix structures, in practice many international companies, with regard to their specific needs and diversified business portfolios, developed more complex matrix structures, such as (Bartlett & Ghoshal, 1990; Galbraith, 2009): the three-dimensional matrix (geography-dominant matrix, balanced matrix, and business-dominant matrix) and more complex matrix structures (the global account teams, the front-back hybrid model, etc.).

As there are several variations of the common matrix structure, Schnetler et al. (2015) argue that any organization will have a uniquely tailored matrix structure based on its business needs.

4. CHARACTERISTICS OF MATRIX DESIGN

The most important characteristics of a matrix structure are: (1) dual command system and continuous balancing of power between functional and team managers, (2) high degree of vertical and horizontal delegation of authority with unclear hierarchies, (3) low vertical specialization with simultaneous use of advantages of narrow and wide horizontal specialization – functional expertise and wider specialization within teams, and (4) developed coordination mechanisms of mutual adjustment.

Matrix structure is created through multiple teams around different criteria, such as: functions, products, regions, and/or businesses. Team members have at least two supervisors: the functional manager and the team manager. If functional experts are members of many different teams, then the number of their immediate supervisors further increases. Balancing power between these two types of managers is a constant need and requires a strong role of strategic management.

Within a matrix structure, the team has at least two roles: it presents the structural dimension of a matrix, but is also a mechanism for coordination and integration of an organization (Jones, 2004, p. 183). Individual roles and authority lines are consciously set ambiguously, since the basic assumption built in a matrix structure is that in ambiguous situations, when team members have increased the level of responsibilities, and not adequate authority, they simply must collaborate in order to deliver good performances. Therefore, a matrix is characterized by the following: minimal vertical control, built-in formal hierarchy, and maximal horizontal control, based on a team which has a built-in integration mechanism and facilitates intense mutual adjustment.

Parallel authority lines reflect opposite needs of functional, product and regional groups of managers and represent a formal mechanism for their adjustment and resolution of potential conflicts. Multiple communication channels allow organization to recognize and analyze extremely complex external environments. Overlapping of responsibilities enables the organization to combine parochialism with a built-in flexibility in its response to complex environmental changes (Bartlett & Ghoshal, 1990).
Team membership is not constant. The members are moving from team to team in order to allow for their abilities, knowledge and skills to be used effectively. In this way, differences between functional orientations within an organization are diminished and greater integration is facilitated. In order to operate effectively, the matrix structure must have extremely developed multiple coordination mechanisms for mutual adjustments.

The main advantages of a matrix structure are as follows (Burns, 1989; Hodge et al., 2003; Hatch, 1997): (a) it enables an organization to achieve multiple strategic priorities and often conflicting goals through its dual focus on both the cost and the quality; (b) it provides for flexibility and quick adaptation to changing market and technical requirements through the use of inter-functional teams, which reduces the degree of organizational differentiation and increases the degree of organizational integration, and therefore facilitates organizational learning and adaptation; (c) it allows for an effective resource allocation through moving a limited number of functional experts from one team to another; (d) it facilitates increased formal lateral communication, thus making fertile ground for technological progress and innovations to occur; (e) it is easily created by recruiting team managers and members; (f) it facilitates a flexible use of human resources; and (g) it leads to employees’ increased motivation and job satisfaction.

5. THE WEAKNESSES AND CONFLICTS BUILT IN A MATRIX STRUCTURE

Apart from numerous advantages of a matrix structure, it suffers from severe limitations originating from its own organizational deficiencies (Davis & Lawrence, 1978; Larson & Gobelli, 1987; El-Najdawi & Liberatore, 1997; Kuprenas 2003):

First, a matrix structure lacks some advantages of bureaucracy. With a flat hierarchy and few rules, a matrix lacks the formal control system needed to introduce the employees with the expectations they may have from each other. Although theoretically team members are expected to constantly negotiate their roles and responsibilities to achieve flexibility, in practice however, majority of people do not like role ambiguity and conflicts of roles which the matrix structure may produce. It is often the case that the functional manager (often focused on quality) and the team manager (focused on costs) have quite different expectations from the team members. The consequence is a role conflict, so the team members may not be sure what is in fact expected from them. Therefore, although the matrix structure is highly expected to promote flexibility, in practice it can actually reduce it, if the team members start to avoid taking responsibilities (Jones, 2004, p. 185).

Secondly, lack of transparent hierarchy may create a conflict between the corporate functions and the teams over limited resources. In theory, team managers are “buying” the services of functional experts, whereas, in practice, the costs and resource
allocation become blurred as spending on projects or products starts to exceed the
budgets and functional experts are not able to overcome the technical barriers within
the defined time frame. Such a situation further reinforces the progress of politi-
cal processes between the functional managers and the team managers who seek to
get support from the top management (Pitagorsky, 1998; Kuehn et al., 1996; Johns,
1999). The matrix should be constantly balanced to prevent domination of one side
over another (Hatch, 1997), although it is often the case that in practice the function-
al dimension dominates within a matrix due to the inability of functional experts to
adopt project orientation.

Thirdly, the members of matrix organizations are expected to have extensive commu-
nication skills and abilities for teamwork (El-Najdawi & Liberatore, 1997; Turner et
al., 1998). However, matrix organization does not provide automatically for efficient
coordination, whereas dual command system leads to conflicts and confusion, which
is why many employees often express high level of stress and ambiguity; intergroup
conflicts are frequent due to the heterogeneity of teams (Khandwalla, 1977).

Fourthly, both existence of a large number of committees and reports and authority
overlap lead to real loss of responsibility (Bartlett & Ghoshal, 1990), so over time
individuals start to create their own personal hierarchies to provide for a particular
degree of stability and certainty. This situation creates fruitful ground for the emer-
gence of informal leaders who become recognized by other team members as great
experts, so the status hierarchies within teams start to grow. Team members often
refuse to move to other teams, either due to good relations with current colleagues
(Jones, 2004) or due to perceived lower significance of other projects (Hatch, 1997).

Fifthly, matrix organizations present stressful workplaces due to role conflict and role
ambiguity, and the cost of administration and communication is higher than in tra-
aditional organizations (Knight, 1977).

Finally, when top managers recognize that they do not get what was expected from
the matrix, they start to tighten their control over the decision-making process. Slow-
ly, but certainly, as individuals fight for more power and authority, the matrix orga-
nization, originally created as a flat decentralized structure, starts to grow into some-
thing else – a bureaucratic centralized structure with all of its built-in limitations.

Schnetler et al. (2015) investigated how the characteristics of matrix organizations
influence drivers of project success, such as communication, collaboration, and trust
between project team members. Their research suggested that the matrix character-
istics that were expected to correlate positively with project success mostly correlated
with the success drivers, whereas characteristics expected to impact project success
degatively did not show such significant correlations; some even correlated positively
with success drivers. On the basis of their research they proposed (p. 23) an expanded
model of the influences of matrix characteristics on project success (see Figure 5).
The challenges associated with matrix structures may be summarized as follows:

1. Presence of disruptive conflicts, which may be grouped as (a) goal conflicts between different project, regional, product and functional teams (Wolf & Egelhoff, 2013), (b) authority conflicts due to unclear roles and responsibilities (Joyce, 1986; Goold & Campbell, 2003; Sy, 2005), and (c) evaluation conflicts since employees from different functional units often have different attitudes, perspectives, and orientations (Davis & Lawrence, 1977: 104; Katz & Allen, 1985; Sy, 2005);
2. Power struggles (Davis & Lawrence, 1978; Larson & Gobeli, 1987; Nicholas & Steyn, 2012);
3. Unclear roles and responsibilities (Joyce, 1986; Goold & Campbell, 2003; Sy, 2005);
4. Tendencies toward anarchy (Davis & Lawrence, 1978);
5. Collapse during economic crises (Davis & Lawrence, 1978; Greiner & Schein, 1981);
6. Excessive overhead costs (Larson & Gobeli, 1987; Turner et al., 1998);
7. Decision strangulation, uncontrolled layering and sinking to lower levels (Davis & Lawrence, 1978);
8. Because of the relatively large number of managers required, functional managers often double up as project managers – the ‘two-hat matrix’ (Galbraith, 2009; Nicholas & Steyn, 2012).
Together, they produce numerous paradoxes built in a matrix organization, including the following: (1) increased frequency of lateral communication versus ambiguity over roles, responsibility, and conflict between functional and project managers; (2) improved motivation and commitment versus heightened conflict among employees; (3) high ability to process information versus decision strangulation and slow response times.

5. CONCLUSIONS: HOW TO RESOLVE THE CONFLICTS?

In previous sections, we defined the matrix structure, analyzed its main types, described its major characteristics and addressed the weaknesses, conflicts and paradoxes associated with matrix organizations. We believe that matrix structure may be effective if top management of matrix organizations tries to resolve the conflicts built in the matrix design. Such attempts should include the following:

**Aligning the goals of different matrix dimensions to complement each other through more elaborate management of the planning system and resource allocation.** Top management should persist in building a connected system of decision-making processes in the team. The joint goal-setting process may be created through an integrated planning process supported by multidimensional information system, thus linking the goals of national account teams and regional teams. In addition, more elaborate management system for resource allocation should be developed.

**Creating clarity on unit roles and responsibility.** This can be achieved, according to Goold and Campbell (2003), through the following: (a) managers need to specify broad responsibilities of matrix units in a way that makes the broad remit clear, but leaves most of the details to be determined by the unit; (b) managers need to specify clear reporting relationship – to whom units will report, and what the nature of this reporting relationship will be; (c) clear lateral relationships need to be specified – It is important for units to have a sense of what sort of relationships they are meant to have with other units (this concerns both relative power and influence in key shared decisions and the spirit of collaboration that should prevail, and the extent to which collaboration is optional or mandatory); (d) defining main accountabilities of units which helps managers to decide what priorities they should give to different tasks on their ‘to do’ lists, and therefore shapes the way in which they discharge their responsibilities.

**Better planning of matrix design in advance.** The matrix should be implemented only when it is really purposeful: when there is a major need for middle managers of different units or teams to coordinate important business matters on a daily basis, and when the required coordination cannot be achieved adequately only through “soft” mechanisms. Therefore, matrix should not be the default design option. Further, according to Wolf and Egelhoff (2013), if two interdependent subunits of an MNC are
both profit centers (e.g., a product subunit and a geographic subunit), conflict will be greater than if one is a profit center (product subunit or geographic subunit) and the other a cost center (functional subunit). In addition, top management should attempt to reduce the number of overlapping profit centers, since that design appears to be associated with higher levels of intraorganizational conflict. Managers should anticipate the level of conflict associated with adopting a given matrix structure better and plan for the conflict resolution capabilities that are required to manage it more intelligently. Finally, managers should know that the process of reconciling differences between the subunits appears to be nonhierarchical.

Developing a strong collaborative organizational culture, where information flows freely, development of strong relationships and informal networks are promoted, and employees are encouraged to develop interpersonal skills, such as communication, influencing without authority, teamwork, conflict resolution, etc.

Application of HRM policies fitting matrix design. HR managers should focus on people who can influence without authority, are willing to collaborate, like to be part of something important, and are capable of building high-trust relationships and interpersonal networks (Galbraith, 2009).

Increasing the quality of communication through the following: increasing communication between key players – from informal face-to-face discussions to formal performance management process; increasing collaboration between team members; and increasing trust among team members.

Building strong leadership that is based on knowledge and competence, which ensures that roles, responsibilities and interfaces across functions, countries, and businesses are clearly defined, balances power between different managers, efficiently addresses and manages conflicts, builds networks and values networkers, encourages joint problem solving, and sets an example for the rest of the organization.

Future research should focus on an in-depth analysis of the examples of successful applications of matrix design in order to confirm the factors that are positively correlated with the decrease in conflicts within the matrix.

REFERENCES


MARKET OPPORTUNITIES FOR LOCAL MEDIA IN SERBIA AFTER PRIVATIZATION

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Abstract More than a decade after establishing adequate legal grounds for the privatization of media in Serbia, followed by a harsh public debate and adopting of a number of additional strategic documents, the privatization of media in Serbia has been accomplished. The process was completed in two waves, one of which covered the period from 2001 to 2007, and the other one the period from 2011 to 2015. Media privatization was initiated shortly after the democratic changes in 2000 and was regarded as an important part of the overall process of transition toward market economy. The institutional framework which allowed the withdrawal of the state from the sphere of media included the Law on Privatization (2001), the Law on Broadcasting (2002) and the Law on Public Information (2003). Still, the process was halted in 2007 due to pressures coming from the public sphere. The loudest voices against it were those of the local media, their associations and the local self-governments. Finally, four years later, another wave of media privatization was initiated by issuing the Strategy for the Development of the Public Information System in the Republic of Serbia until 2016. In accordance with this document, the privatization of media in Serbia was finalized by the end of 2015. However, although media privatization in Serbia has been completed, we still know very little of its results and effects. Some public stakeholders assume the process to be successful, basing their arguments on the simple fact that many local media outlets have been sold to new owners. But its real effects, particularly with regard to its contribution to media diversity and improvement of access to more relevant, timely and useful information and overall higher quality of media content, still remain unclear. On the one hand, already strong privately owned media brands have mostly been successful in competition with even stronger international players that entered the Serbian media market. On the other hand, survival of local media after privatization is questionable mostly due to low market opportunities, but also due to the fact that privatization failed in achieving positive effects with regard to media freedoms and media pluralism, as well as with regard to professional journalism and economic position of journalists. Keywords: privatization, local media, market opportunities, media content

JEL: L82, M2, M3
Field: Business

1. INTRODUCTION

In terms of media diversity, Serbia has followed the same pattern as all other socialist countries in Eastern Europe, where, prior to the fall of the Iron Curtain, mass media had been owned by the socialist states. The last decade of the 20th century brought radical changes in the sphere of media, as a part of broader political and social movements toward democracy and free market economy. Being the first to start their tran-
sition processes, the countries of Central and Eastern Europe (CEE) abandoned the previous practice of the state-controlled media quite rapidly, opening their media markets to free competition. Changes in the media sphere have been arranged in accordance with the well-established practices of developed market economies, particularly those of the US and the EU. Following the US model in which, besides private, no other type of media ownership exists, advocates of media market liberalization promoted full privatization as a crucial prerequisite for establishing sound grounds for media freedoms and offering media content which effectively and efficiently meets consumer needs. On the other hand, throughout the process of their accession to the EU, the countries of CEE were pressured to adjust their media markets to the existent ones in other Western European countries. Such adjustment included the need to establish grounds for the foundation and operation of one public broadcaster, as well as for the promotion and implementation of media privatization, allowing new market entries by privately owned media outlets and developing appropriate media regulation to ensure media pluralism and freedoms (Harcourt, 2003).

By the time Serbia officially entered the process of transition media markets in CEE countries had mostly been privatized and regulated in accordance with the EU model. Following the same pattern, as an important part of the overall process of transition toward market economy, media privatization in Serbia was initiated shortly after the democratic changes in 2000. It was based on a general decision directed at market liberalization in different spheres in which state-owned enterprises had been dominating the markets in previous decades, including financial services, telecommunications, electricity production and distribution, media, etc. Hence, in 2001 the Law on Privatization was passed, followed by the Law on Broadcasting (2002) and the Law on Public Information (2003). Consequently, the issuing of the three documents established institutional framework for media privatization already at the beginning of the new century. Allowing new market entries undoubtedly contributed to establishing market competition and the proliferation of new media outlets, thus limiting the space for the state-controlled media sphere. The main national TV broadcaster – RTS started its transformation into a public broadcaster as of 2005. However, in 2005 more than 300 electronic media were still financed directly from the state budget (Strategy for the Development of the Public Information System in the Republic of Serbia until 2016), while a few important nationally distributed print media and one news agency remained predominantly controlled and owned by the state. The same referred to a group of local media whose operations were mostly financed through local self-governments (LSG).

Initial euphoria with regard to media privatization was halted at the end of 2007, due to public pressures and particularly pressures from the local media, media associations and the local self-governments. Consequently, Drašković and Gruhonjić (2015) legitimately regard the period from 2001 till 2007 as the first wave of media privatization. Therefore, we consider the adoption of the Strategy for the Development of the
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Public Information System in the Republic of Serbia until 2016, followed by a series of media laws enacted in 2014 and 2015, as the second wave of media privatization in Serbia that was initiated four years later, i.e. in 2011. In accordance with the Strategy and other legal acts, the privatization of media in Serbia was to be finalized by the end of 2015. Today, media privatization process is completed. However, the type of ownership of a few important media is still questionable. Moreover, the effects of privatization on media pluralism, freedom of the press and overall development of media market remain unknown.

Finally, little attention has been paid to local media, their market opportunities deriving from deregulation and their competitiveness in the newly established media market. While important public stakeholders have been quite loud in assuring the interested public that the process of privatization of local media has been successful, it is argued in academic circles that the local media in the countries in transition are barely surviving, which is primarily the consequence of underdeveloped local media markets and poor potentials for advertising (Mihajlov Prokopović, 2014). Against such a backdrop, this paper aims at tackling the issue of the effects of the privatization of local media in Serbia and at discussing their market opportunities.

2. PRIVATIZATION OF LOCAL MEDIA: PROCESS DYNAMICS AND PLANNED OUTCOMES

The privatization of media in Serbia was completed in two waves, the first one covering the period from 2001 to 2007, and the second one the period from 2011 to 2015. In the first wave of privatization, institutional framework based on three crucial documents (the Law on Privatization adopted in 2001, the Law on Broadcasting from 2002 and the Law on Public Information passed in 2003) was established, according to which the process had to be completed by December 31st, 2007. However, very near the set deadline, the process was halted due to strong political and social pressures coming particularly from the local communities opposing the idea of full privatization of their local media. The main argument against the privatization of local media came from the local communities where local media primarily targeted national minorities (since they were published in minority languages). The fact was that the local media were primarily established to serve small markets and therefore lacked potential to survive under new market conditions which would impose open competition on both national and local media markets. The pressures coming from the local communities certainly influenced the speed and results of privatization which actually led to the Government's final decision to temporarily suspend the process of local media privatization.

In consequence, it is generally accepted that the first wave of privatization did not produce expected results (Strategy for the Development of the Public Information System in the Republic of Serbia until 2016). The results showed that while 109 local media
had been listed for privatization, only 56 of them were actually handed over to new owners. Among the remaining local media, for 37 of them the process was suspended, 7 media outlets closed their operations in accordance with the decisions made by the local self-governments, while auction for another 9 local media was completed unsuccessfully. Furthermore, among 56 privatized local media, 18 contracts were terminated. Those 18 media outlets had to wait for another wave of privatization. Finally, among the 38 privatized media, only a few were found to be relatively sound, while the vast majority were hardly surviving in the media market.

Four years later, the Government revived the process of privatization of local media by issuing a new document – *Strategy for the Development of the Public Information System in the Republic of Serbia until 2016*. In consequence, as of 2011 Serbia entered the second wave of local media privatization, establishing new legal grounds based on a new series of media laws enacted in 2014 and 2015. The Law on Public Information and Media, passed in 2015, set a new deadline for the completion of media privatization – until July 1st, 2015. However, once again the deadline was extended, so that the privatization of local media in Serbia officially ended on October 31st, 2015.

It was difficult to determine the exact number of local media outlets waiting for privatization in the second wave of the process. As previously mentioned, out of 109 local media listed for privatization, only 38 were privatized in the 2001-2007 period. Taking this fact into consideration, and assuming that 7 media which were closed had not restarted their operations, it can be calculated that 64 media outlets waited for the second wave of privatization. However, according to Government officials and media associations, it seemed that somewhat more than 70 local media had been listed for privatization. For example, according to the Ministry of Economy, 72 local media were to be privatized (*Ministry of economy considered extending deadline for privatization of local media*, 8th June 2015, retrieved from http://www.fairpress.eu/rs/blog/tag/privatizacija-medija/, accessed August 15th, 2017), while the Ministry of Culture and Information publicly announced ownership transformation in 74 local media (Mirković, *Privatization of the majority of media an unbelievable success*, 9th October 2015). On the other hand, one of the biggest media associations in Serbia (UNS) reported on 73 local media waiting to be privatized (*Privatization of media, you asked for it and didn’t get it*, 24th February 2016).

Overall, one may conclude that the process of privatization of local media in Serbia went quite slowly and with only a general idea of what should be achieved to improve the social (reducing state control in the sphere of media and public information system and promoting media freedoms and pluralism) and economic conditions (allowing free competition for the already established media outlets and new entrants) in national and local media markets. On the other hand, no market analyses were conducted before initiating the process of privatization, and consequently no opportunities and potential threats for the local media outlets and the whole process
of ownership transformation were assessed. Not being aware of what precisely one wanted to achieve by privatization and/or what could have been expected under all the circumstances which should be taken into consideration, it is extremely hard to evaluate the results after the completion of the privatization process. Therefore, our knowledge of the effects of the privatization of local media in Serbia remains quite limited. Moreover, we still lack the exact data on how many media outlets have successfully gone through ownership transformation. Above all, there are even more important questions with regard to general aims of privatization process set by the Government, waiting to be answered, in relation to: 1) media freedoms and media pluralism 2) opening media markets to free competition.

3. RESULTS ACHIEVED BY THE PRIVATIZATION OF LOCAL MEDIA IN SERBIA

Measuring results of any undertaking should be linked with its specific targets set in advance, which unfortunately could not be the case with the process of privatization of local media in Serbia, as specific targets were inexistent. However, the opinion often stressed in public discourse was that the process of privatization of local media in Serbia would be completed successfully. Such an approach was based on a public statement an official gave less than a month before the official deadline of the process of privatization, saying that there was a high probability that out of 74 local media offered for sale, as much as 70% would be sold by October 31st, 2015 which is a considerable estimate if compared with the privatization process of other business entities in Serbia (Mirković: Privatization of the majority of media an unbelievable success, October 9th, 2015).

By contrast, quite different opinions started to be heard afterwards, particularly among media representatives and their associations. In that sense, it was publicly announced that only 34 media outlets actually got new owners, another 22 were closed, while 17 of them, which could not be sold externally (through auction), were to be kept in the hands of their employees (i.e. privatized by free distribution of shares among employed media workers). Finally, it was obvious that as many as 39 media outlets (out of around 70 listed) were not sold to new owners, leaving us with the success rate of less than 50%. Still, it should also be noted that, taking into consideration that public offer for sale was announced for only 50 media outlets (out of around 70 initially listed for privatization), with 34 sold to new owners, the success rate of the public offer itself might be estimated at 68%.

Without the intention to go deeper into the discussion about the two different views of success of the privatization process and taking into consideration only the number of actually privatized local media, this paper aims at initiating a discussion on general possibilities of evaluating the overall success of the process of privatization of local media in Serbia, based on the objectives set in advance, no matter how imprecise they were. More specifically, the goal of the paper is to highlight that the objectives should
have been based on a deeper understanding of the market itself, as well as on the assessment of real market opportunities the local media were facing. Unfortunately, no market opportunities analysis has ever been conducted and no specific goals were set. However, we should not be left without any insight into what happened. It is particularly of crucial importance to understand why not all the local media were offered for sale and why many of them, even including those successfully transformed into private companies, will simply not be able to survive in the media market.

4. SPECIFIC CHARACTER OF MEDIA MARKET AND MEDIA PRODUCT

Although privately owned media outlets have mostly based their business models on market principles quite similar to those of other profit-oriented enterprises, it has to be made clear that both media markets and media products are in essence quite different from markets in other business sectors, as well as from related products and services. First, media markets are ideas markets (Papandrea, 2006). The second, yet more important distinction comes from the fact that the media market is a typical representative of a two-sided market, or dual market (Reisinger, Ressner & Schmidtke, 2009).

Ideas markets are specific because of the fact that perfect competition may not bring only benefits for the customers, but may even be in conflict with broader social interest. In theory, perfect competition in any market should lead to price reduction resulting from achieved substitutability of offered products and services, thus increasing utility for the customers. However, substitutability of offer in an ideas market goes against media pluralism which is of primary social interest in any democratic society. Moreover, media pluralism makes the essence of strategies of public information systems in any democratic society and should therefore be protected with appropriate regulatory and self-regulatory mechanisms.

In addition to the above, media market is highly specific as being two-sided. Dual character of the media market is represented by the fact that media outlets simultaneously operate in two separate but interrelated markets, namely consumer and advertising markets. In accordance with their business mission, media outlets produce media content which should respond to specific needs of their consumers for information, education, social interaction and entertainment. Therefore, the main media product is media content which is offered to readers, viewers, listeners and followers of such media. Depending on their business model, the media product is sold to media customers per unit or against payment of a subscription fee, and it may also be distributed for free. In any case, due to the specific character of media product which will be elaborated later, revenues obtained from consumer market, even for paid media, are usually not enough to cover their operational costs and earn profit. Therefore, media outlets operate separately on yet another side of the media market and that is the advertising market. Contrary to consumer market, the customers in
this segment of the media market are not particularly interested in media content, but are rather interested in media audience. Therefore, what media are really offering to advertisers is only indirectly related to their product, which should be created to attract specific target audience relevant for the advertisers. Consequently, the two sides of media markets are interrelated, but also conflicting. To understand them, one must go deeper into market analysis of both sides of the media market.

Most commercial media operate simultaneously in both consumer and advertising markets. In most cases, consumer markets do not allow profitable operation of media outlets, so they have found the way to top up their revenues by offering media space (print media) or time (broadcast media) to advertisers. As space in the media is not a media product per se, what media outlets are actually offering to advertisers is their audience (i.e. their consumers). In fact, what media outlets are offering in the advertising market is the interest of their audience in specific media content they produce. The business game is thus played between three separate players whose interests may be related, but are also conflicting. While earning additional revenue at the advertising side of media market means better opportunities for producing media content of higher quality while at the same time keeping low prices (which is in accordance with consumer interest), it also includes additional disturbance for the media audience that may be interested in the media content, but not in advertising. Moreover, when advertising clutter becomes too big, consumer utility is affected even if the prices remain low. In consequence, an increase in advertising revenues earned in the advertising market may negatively affect the operations in consumer market, thus reducing the size of media audience. Narrowing the size of media audience has a negative effect on advertisers’ utility, which is why they may decide not to place their ads and reduce their ad spending in media due to a smaller audience.

Yet another problem stemming from commercial media operations in the two-sided market is related to the impact of this model on social values and social interest. To stay attractive for advertisers, media outlets produce and deliver media content which keeps the attention and interest of broad audiences. However, as media audience may not be interested in specific content, media outlets may find it opportune to stop producing it. From the business perspective this may even seem sound, but taking social interest into consideration, such a practice is regarded as an example of what is referred to as economic censorship (Gal-Ezer, 2014) or corporate censorship (Klein, 2000). This phenomenon, together with the specific character of media product, is considered to be the most relevant argument against full privatization in the sphere of media and deregulation of media market (Ognjanov, 2017a).

Economic censorship is closely related to the specific character of media product. As previously noted, media product is the content that media outlets are producing to offer it in the consumer market. Just as the world of media is quite heterogeneous, so are the media products. This fact makes generalizations rather hard. However, here
we will focus mostly on the media content produced by what we call traditional media, i.e. print and broadcast, while the new media (social media and social networks, movies, CD and DVD, games, etc.) and the content they produce will remain out of scope of this paper. In that sense, we are referring to the media product as media content produced to meet audiences’ needs for information and education in the first place, but also their needs for social interaction, relaxation and entertainment. While media contents are not uniform, at least in the part produced to satisfy the needs for information and education, media product is a public good (Doyle, 2013, p.14). By definition, public goods are those that are non-excludable and non-rivalrous, which means that such goods may be used unrestrictedly by many individuals and that their use by one person does not reduce the utility for anyone else who might use them as well (Mankju, 2006, p. 224). With regard to media content, published information may not be denied to anyone who has not paid for it and no one who has already received the information can prevent anyone else from obtaining it. Taking into consideration the specific characteristic of the media product as a public good, it is understandable why market potentials of consumer markets could be rather low. In consequence, if media outlets were focused only on this side of the media market, they would hardly attract the interest of private capital in this market. On the other hand, we see that most of today’s media outlets are predominantly owned by private owners and commercial, i.e. for-profit organizations. The latter is the result of their interest in the other side of the market, which is the advertising market, as we have explained above. Moreover, the public good character of media product even strengthens their bargaining position in the advertising market, allowing broad audience to be exposed to media content which is in the primary interest of advertisers.

The abovementioned is supported by the fact that production of media content may be extremely expensive. By higher reach, i.e. attracting more individuals with the same content, media outlets are achieving economies of scale and higher efficiency even when individuals within audience decide not to pay for the media content. Therefore, to increase efficiency, but also to attract advertisers, media outlets may be particularly interested in producing the type of media content that would attract specific interest of media audience. The problem, however, lies in the demand side of consumer market for at least two reasons. One is related to negative externalities, i.e. the fact that, in addition to being a public good, media content is also a merit good and should therefore be addressed through regulatory mechanisms introduced by the state (Ognjanov, 2017b). The other one stems from what Napoli (1999) referred to as the lack of pluralism on the demand side of media market.

Negative externalities may be the result of offering only the content in which consumers express interest. Although uses and gratifications theory, as one of the most relevant communication theories, assumes that people typically make clever choices when deciding which media content to consume in order to satisfy their needs for information, education, entertainment and relaxation (Vilkoks et al., 2006), their
choices still may not support the interest of society as a whole. This is supported by extensive evidence of media content that is far from educational, yet, on the contrary, leads to less informed and less educated individuals within a society. In Serbia, as well as in many other countries, strong commercialization of the media sphere has led to the proliferation of tabloids and reality programs as the most evident examples of negative externalities.

The other problem related to the lack of pluralism on the demand side of media market is yet the other side of the same coin. Namely, due to their business models, which incorporate achieving economies of scale based on extended media reach, media outlets have been offering the content which can attract interest of broad audience, comprising rather heterogeneous individuals. This leads to abandoning the programs and contents that may not arouse interest of broad public, but would only be recognized as important by a limited number of individuals. It has been evidenced in literature that strong competition in the media market leads to duplication of media content (Steiner, 1952, p. 194), thus limiting the choice of smaller parts of audience which are out of reach of profit-making media outlets. In conclusion, it is obvious that media economics should be taken into consideration to understand why free media markets and purely privately owned media would oppose public interest for media pluralism and actually reduce the level of information available in a society. Based on all the above, it is not difficult to understand why we are now witnessing the failure of privatization of local media in Serbia, represented not only by the closing of many local media outlets, but also by the reduction of media freedoms and by the increase of various types of censorship among those who managed to survive.

Since the beginning of the 21st century, Serbian Government has embraced the idea of media market liberalization with two main objectives – to reduce state control over media content while establishing solid grounds for free competition in the media market. No prior economic analysis with regard to market potential, market position and market opportunities of local media has been conducted. Privatization process started without taking into consideration the sustainability of local media outlets which would be achieved if they became privately owned profit-making organizations. Privatization was regarded as a must, a progressive idea, which is why the voices against it were tuned out by repeating the mantra that it would bring about the final withdrawal of the state from the sphere of media. Commercial operation of media outlets, primarily based on advertising revenues, with the support of project financing provided by the local self-governments, was seen as the most natural guaranty of media freedom and media pluralism. As a result, a few years later, a number of local media outlets were closed, while the influence of local political parties on media content has increased, making media freedoms and media pluralism merely a contemporary myth.
To understand better why it was not realistic to expect that the local media outlets would improve their operations after privatization in order to endure free market competition, we should focus on their market opportunities both in consumer and advertising markets.

5. MARKET OPPORTUNITIES FOR LOCAL MEDIA OUTLETS IN THE TWO-SIDED MARKET

Local media in Serbia cover a broad range of print and broadcast media aiming at providing timely and relevant information for small local communities. Prior to privatization, such media were financially supported by and to a certain point even managed under the auspices of local self-governments. Once local self-governments have withdrawn from the local media outlets, giving way to private ownership, they became exposed to strong market competition coming from much stronger market players on the national level. New market conditions have limited the possibilities of many local media to survive, therefore leading either to their closure or to the change of their focus, harming the interests of local communities. Many local media were published in minority languages, thus specifically focusing on the needs for information of rather small audiences. Since consumer market is generally extremely small in terms of all local media with the media content of public good character and taking into consideration the fact that members of many local communities in Serbia have rather low discretionary income, it is obvious that this side of the local media market was never quite enough to cover operational costs of media, let alone earn profit. Yet the need for the media content they produce, especially the one in minority languages, was and still is unquestionable.

The lack of market opportunities for local media outlets in consumer market has forced them to rearrange their business models so that the revenues from advertising would become the primary source of funding. The sustainability of local media was therefore based on the assumption that private owners might find their interest in this side of the media market, while simultaneously contributing to higher efficiency, professionalization of work and improvement of working conditions of journalists employed in local media. Unfortunately, the assumption was more of a wish expressed in strategic documents than a stepping stone based on a proper market analysis.

In general, advertising market in Serbia is on the national level rather small and competitive. Over the last five years, according to marketing research agency Ipsos Strategic Marketing overall advertising spending in Serbia have been ranging from 150 to 175 million euros. The highest market value was recorded in 2008 (206 million euros), but it started to decrease in the years to come. At the moment, the market value is estimated at around 160 million euros. It should however be noted that such an estimate refers to the net market value, calculated primarily on the basis of the spending of media, i.e. the fees paid by the advertisers for the use of media space
and time, thus excluding production costs and VAT. The calculation is based on all media space and time sold in the advertising market multiplied by the fees claimed by media outlets. Therefore, the net market value might be even lower, if we take into consideration the rebates media typically offer to big media buyers. In consequence, while we cannot precisely calculate the advertising market value in Serbia, we can still conclude that it is rather small.

On the other hand, the number of media outlets competing for a generally small amount of money for advertising on the national level is huge. While again we lack the precise data on the number of media outlets operating in the Serbian market, we know that the number exceeds 1,500. Not even the new Media Registry established within the Business Registers Agency has contributed to better visibility of registered media and provision of data on their business operations. As of December 2016, as many as 1,788 media outlets have been registered (UNS, 29/12/2016), which is several hundred more than at the starting point of media privatization in Serbia. The *Strategy for the Development of the Public Information System in the Republic of Serbia until 2016* reported that in 2005 there were more than 1,200 media outlets, while in 2011 broadcasting licenses were issued to 321 radio and 134 TV stations, whereas 517 print media outlets were registered. The number was considered extremely high for the media market as small as the one in Serbia. Therefore, the need for further media consolidation was incorporated in the *Strategy*, assuming that privatization will contribute to the sustainability of only those media outlets that can efficiently and effectively meet the market needs. However, the assumption was rather weak in the part referring to the local media, as there were only 70 local media to be privatized, and the process was initiated for 50 of them, while only 34 were finally privatized. Not only that this could hardly ever contribute to media consolidation, but also the assumption was not made in accordance with the specific needs of local communities for local information that cannot be met by any other media outlets. Finally, current data make the best evidence demonstrating that the number of media outlets has only continued to grow, most probably as the result of growing online media, especially news portals, which reached the figure of 539 registered media outlets at the beginning of 2017 (Krivokapić & Jovanović, 2017).

Based on the above, it is evident that the capacity of the demand side of media market in Serbia is rather limited and thus can hardly absorb current supply represented by the huge number of media outlets competing for their piece of the market pie. Moreover, the capacity is limited on both sides of the media market, including consumer and advertising markets. Consumer market is limited due to low discretionary income and public good character of media product. On the other hand, advertising market is limited due to relatively low advertising spending directed mostly at the media with national coverage, i.e. the media through which advertisers may easily reach a rather broad audience on the national level. While it should have been expected that local media outlets would compete primarily for the money from adver-
tising of local advertisers, it appeared to be unrealistic. Namely, the advertising budgets of local advertisers in Serbia are still too small or they simply do not have great interest in placing their ads in the local media. On the other hand, the local media and even their regional networks remain less attractive to national advertisers than their competitors covering the national media market.

Under such conditions, it is evident that local media outlets in Serbia could not become self-sustaining only through focusing on revenues from advertising and should rather find alternative business models to support their operations. These alternative business models, in accordance with experiences recorded from more developed market economies, include the establishment of local media outlets as nonprofit organizations (NGOs, civil society organizations), donor fundraising (including project financing offered by the state) and establishment of multiplatform operations (Mihajlov Prokopović, 2014). In conclusion, two years after the completion of media privatization in Serbia, it became evident that the market opportunities were not favorable. Therefore, the effects of privatization can hardly be regarded as either economically or socially desirable, which shall be described in more details below.

6. EFFECTS OF PRIVATIZATION OF LOCAL MEDIA IN SERBIA

Measuring the effects of privatization of local media in Serbia implies conducting an outcomes assessment that would be based on both objectives set in advance and achievements recorded with regard to improved efficiency of operations, improved effectiveness in the provision of timely and relevant local information, professionalization of journalism on local levels, as well as improvement of working conditions for local journalists. However, apart from general objectives set in strategic documents in which assurances are provided with regard to reducing state control in the sphere of media and allowing media freedoms and media pluralism, as well as allowing free market competition in the media market, no specific targets have been set. Therefore, the effects of privatization of local media, apart from rather general praises coming from the strongest advocates of this process and harsh critiques coming from its opponents, have never been assessed by applying objective methodology.

Besides the number of media outlets for privatization and the number of those which were finally sold to private owners, we still know quite little about the outcome of this process in both segments – Serbian society and the media industry. As previously noted, the projected change reflecting broader social interest was to allow media freedoms and media pluralism. The result achieved, however, denies even the strongest arguments for media privatization, as it has obviously established new grounds for the implementation of various kinds of censorships (including corporate, economic and self-censorship), thus limiting both media freedoms and media pluralism. Not only in Serbia, but also in other more developed market economies, it has been proven that private capital and profit motives are contrary to free journalism (Klein, 2000;
Gal-Ezer, 2014; Jevtović, 2015). On the other hand, as described above, media economics explains best that due to specific character of media market (ideas market, two-sided), media products (public good and merit good) and behavior of media audience (lack of pluralism of demand), free media market might not guaranty media pluralism, but might rather lead to its restriction.

The other question related to the effects of privatization on media industry may also be answered only based on a qualitative assessment, rather than on exact data, as no specific industry and media market analysis have been performed either before or after privatization. A few initiatives by local researchers have been undertaken (e.g. Milivojević et al., 2011; Drašković & Gluhonjić, 2015; Mihailović, 2015; Mihailović, 2017) to better understand the changes in the media industry after privatization and provide a qualitative assessment of working conditions of journalists employed in new privately owned media. The data collected could hardly be used to assess the efficiency of new media outlets, but they do provide insights necessary for the analysis of the quality of provision of public information, as well as of the achievements with regard to professionalization of journalism and their position within new media outlets owned by private owners.

The findings show, without exception, that the media in Serbia have been facing with strong challenges after privatization, particularly with regard to the freedom of speech, reducing their informative role and their transformation into the sphere of propaganda, advertising and public relations coupled with the deterioration of professional journalism and lowering of their employment status and working conditions. For example, Milivojević et al. (2011) find that the major problems the journalists in Serbia have been facing are the following: low salaries, deterioration of professional reputation and social and economic status of journalists and high-handedness of private owners of the media outlets they work for. Such findings have been supported by other researchers. Drašković and Gluhonjić (2015) have found that privatization of local media would eventually lead to self-censorship since journalists believe that one must be obedient to survive. Mihailović (2015) has found that journalist's work is becoming more and more precarious and precarious workers cannot be expected to work for the benefit of any society.

The latest research conducted in 2016/17 by a team of researchers (including the author of this paper) led by Srečko Mihailović, the sociologist, has contributed to better understanding of the changed position of journalists in local media in Serbia after privatization (Mihailović, 2017). An online survey was distributed among 1,200 journalists and other media workers (e.g. photographers and photojournalists, camera operators, audio operators, etc.) out of which 303 fully completed interviews were received. The sample included the total of 235 journalists, out of which 30 journalists from privatized local media outlets. To analyze the position of journalists after privatization of local media, we compared their answers with the answers of their col-
leagues working for the public service broadcaster and other media outlets, including those privately owned and those in other types of ownership (e.g. journalists’ private initiatives, mixed ownership, etc.). Generally, research findings support the conclusions of other studies conducted in previous years, as they clearly show deterioration of journalists’ economic position represented by extremely low salaries, job insecurity and high dependence on working overtime, mostly in the fields of advertising and public relations, deterioration of reputation of the journalistic profession and journalism and loss of journalists’ professional identity.

On the other hand, taking into consideration the perceptions and opinions of journalists working in privatized local media outlets, it is obvious that their position has become even worse than the one already described. More than half of them report very low salaries which are not enough to meet even their basic needs. Almost half of them (43%) describe their social status as very low, while one in five sees him/herself at the very bottom of an imagined social scale. The interviewed journalists perceive mostly negative effects of the privatization of local media, stating that the overall situation in journalism has worsened (57%), their working conditions have deteriorated (73%) and public interest has been neglected (67%). It also seems that journalists in privatized local media have been very close to a consensus with regards to the view that the professionalization of journalism has not been achieved by privatization (87%). Differences between the group of journalists working for the privatized local media and the broader group covering various types of media ownership regarding the stated issues do exist, indicating somewhat worse position of the former. However, the biggest differences between the two are evident in their opinions on the effects of privatization on the editorial policy of the media they have been working for. Namely, journalists employed in privatized local media are of the opinion that editorial policy is now under strong influence of two stakeholders, one of which is represented by the private interest of media outlet owners (44% of interviewed journalists in privatized local media vs. 30% of interviewed journalists from other media outlets) and the other one by the interest of local politicians, political parties, ruling parties and the state (47% of interviewed journalists in privatized local media vs. 58% of those working in other media outlets). Finally, their opinion is more or less consistent with regard to the influence of big advertisers on editorial policy, which they have not perceived as particularly high (only 3.3% of journalists in privatized media outlets and 2.4% of them working in all other media outlets believe that big advertisers may influence the editorial policy).

Against such a backdrop, it is evident that the effects of privatization of local media in Serbia could hardly be regarded as positive with regard to its contribution to media freedoms and media pluralism, professionalization and improvement of the reputation of journalism, as well as professional integrity and economic position of journalists. Moreover, low market opportunities of local media outlets have led to the
worsening of the position of journalists, thus lowering their capacities to serve the best interests of the local communities.

7. CONCLUSIONS

As discussed above, initial enthusiasm of various social stakeholders, including government officials, media representatives, NGOs and many other stakeholders, with regard to the development of media freedoms and media pluralism, which would be a pure result of privatization of media outlets, failed to prove that the free market competition in the sphere of media would serve the interests of Serbian society better. The paper clearly shows that, prior to embracing media privatization as the main strategy that should lead to the withdrawal of state control from the sphere of media, basic principles of media economics should have been taken into consideration. To mention just the most important: media market characteristics, media product, as well as the behavior of media audience had to be taken into account before making the final decision to let “only the market forces” govern the sphere of the public information system.

It has been explained that the character of goods distributed in the media market (ideas rather than products and services) and its two-sidedness represented in simultaneous operations in two interrelated, but conflicting markets (consumer and advertising) limit the possibilities of market forces to increase the utility for the end users, i.e., society as a whole. Additionally, we have seen that the media product represented by the contents produced and delivered to media consumers may not always serve the interests of private capital (public good), but should primarily serve the interests of the society (merit good). Finally, when it comes to media audience not always being aware of what is in their real interest, it has been proven that media pluralism may be negatively affected by the lack of pluralism of demand for media content. Thus, it is obvious that private initiatives in the sphere of media should not have been uncritically promoted as the most efficient and effective type of media ownership which needed to be applied in the case of local media outlets in Serbia, even without conducting an economic and/or market analysis that would objectively reveal their market opportunities and assess their sustainability.

Finally, after the completion of privatization of local media outlets in Serbia, it has become evident that market opportunities have been rather limited, which put pressure on new owners of media outlets to abandon new business models in order to successfully face harsh market competition. Unfortunately, since these business models were based on severe cost cutting, as well as finding alternative ways of gaining revenue (working for advertisers, becoming PR representatives of companies and politicians, serving the interests of community leaders, leading politicians and political parties), they have only contributed to the deterioration of journalistic profession and the economic position and social role of journalists.
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COST ACCOUNTING AS A RELIABLE SOURCE OF INFORMATION FOR COMPANY MANAGEMENT

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Abstract Intensive global competition and technological innovations, together with the changing customer demands, force companies to develop new management approaches and instruments, change the production systems and invest in new technologies characterized by a higher flexibility of the production process, organization of work and managing. This, in turn, leads to the shortening of the product life cycle, changes in the cost structure and character of particular types of costs. Changes in the business environment are also induced by a rise in quality standards, increasing demands with regard to social responsibility and sustainable development, as well as growing demands for environmental protection, which significantly makes the management process in a contemporary company ever more complex. Gaining and sustaining competitive advantage requires rapid technical and technological adjustments, hence huge investments, and a high level of production and sales flexibility regarding not only the breadth/width and depth of the product line, but also the line size, sales and after-sales services.

Managers in contemporary companies face complex and numerous challenges of successful company management. Achieving and sustaining competitive advantage in a dynamic and thoroughly uncertain environment requires, as a must, creativity, initiative, sophisticated professional knowledge and skills, as well as designing an adequate information system – high-quality support to larger and more complex information requirements of managers at all levels of management. Constant and dramatic changes in contemporary competitive environment, as well as the need for integrating into the European and world market flows, require the knowledge of a wide focus of cost and performance management of companies.

The company’s existence in the market directly depends on the degree of fulfillment of customer expectations, but also on the intensification and strengthening of cooperation with other organizations in the environment (customers, suppliers, distributors). New business environment inevitably requires the restructuring of cost accounting and new approaches to costing and cost management in an attempt to improve the quality of cost information that have always been the object of particular interest. When considering the development of cost management, it is very important to link it with modern challenges in organizations. Only by integrating the internal and external aspects is it possible to provide high-quality information on strategic management of a modern company.

Cost accounting information system should be flexibly designed. The extent to which it is capable of helping the management in serving the key purposes fundamentally determines the usefulness of its information. It is important that the accountants know their job well and seek ways to add value to their organizations. In this paper, we discuss the role of cost accounting in offering adequate information support to managers at all managerial levels. We emphasize some of the new tools, techniques, concepts and approaches to costing and cost management (ABC/ABM, SCM, LCCM, TC/TCM, VSA, TQM, ECM).

Keywords: cost accounting, management, strategy, process, cost management.

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1. INTRODUCTION

In the recent decades, numerous and varied macro and micro environmental factors have created new business settings characterized by a high degree of complexity and uncertainty. Globalization and the drastically changed business environment placed a strong focus on competitiveness, which entails redefining a strategy and redesigning an organization. The company is an open system that is in constant interaction with its environment, and all the changes in business settings lead to changes within the company itself. Therefore, an adequate management response is a condition sine qua non of survival, growth and development of today’s companies. The only proper way is to react quickly by changing and adapting the organizational structure, the production process and product design according to the altered customer demands. Modern business environment inevitably requires new approaches to costing and cost management in order to improve the quality of information needed for successful management of a company.

Effective management of an organization in contemporary market economy implies creating satisfactory value for relevant stakeholders by using limited resources and competing with rivals. Due to continuous recognition and satisfaction of customer needs in a more efficient manner than that of the competition, a successful strategy adds value to the target, current and potential customers in the long run. In order to react to and operate in a turbulent business environment in the most optimal way, there is a need to create and implement a reengineering program, TQM, JIT, integration, the change of organizational culture and innovation culture, and the like. The role of cost management in an organization is to provide information support for cost assessment of the TQM system implementation and its functioning, once it has been accepted, which is vitally important in modern business. Entire teams are involved in solving many strategic issues of successful companies – besides managers, experts from various functional domains, employees and key buyers and suppliers who cooperate while delivering value to buyers are also included. In all stages of business decision making and control of the results achieved, an active participation of accountants is of utmost importance. An accountant needs to monitor the set business objectives, actively take part in accounting teams and contribute to the enhancement of the company’s competitiveness. This new role needs to be supported, among other things, by the accountant’s flexibility, continuous education and by monitoring the theoretical and practical achievements related to the accounting information system and adopting new management philosophies. Therefore, they themselves will be able to become managers who would, on the basis of high-quality information on revenues, expenses, profits and other relevant financial and non-financial information, point to a company’s opportunities and threats, emphasizing its strengths and weaknesses.
Achieving and maintaining competitive advantages in modern conditions of considerable external and internal complexity is not possible without an adequate information system. High-quality information support enables management “to clear the hurdles” and thus minimize risks and uncertainties in decision making. Besides, a flexibly designed information system of cost accounting as the key information core is of fundamental importance in generating high-quality information support for modern mechanisms of managing the company. Integrated applications that are widely used in all aspects of business operations and are characterized by integrity, standardization, centralization and modularity, facilitate the changes already introduced in companies, and also create new possibilities and perspectives, particularly in the field of the cost accounting information system.

2. THE SPECIFICITY OF THE MODERN BUSINESS ENVIRONMENT

Due to the impact of social, cultural, political, market, economic, technological, technical and other changes introduced at the end of the 20th and at the beginning of the 21st century, a company’s management is now confronted with a new task of creating a new strategic approach to the altered market and competitive conditions of business operations and transforming the entire former management philosophy. Intensive global competition and technological innovations, combined with the changing customer demands, force companies to develop new management approaches and instruments, change the production systems and invest in new technologies which are characterized by a greater flexibility of the production process, organization of work and managing. This, in turn, leads to the shortening of the product life cycle, changes in the cost structure and character of particular types of costs.

Strong pressure from financial markets related to providing superior returns to stakeholders urges the top management to formulate an effective, precise, yet flexible strategy to gain competitive advantage. Creating a competitive edge is achieved in the commercial market, that is, in the market of products and services. Value creation is manifested in superior returns to the suppliers of capital in the financial market, and it concerns the processes of value management which occur in the environment that has become more challenging, unstable and complex than ever before.

In order to do business successfully in the new competitive conditions, companies lay stress on satisfying customer demands, that is, on delivering products and services which have a lower cost cumulant and, therefore, lower selling prices or a higher degree of added value relative to competitors, or they achieve this in the most efficient way from the aspect of customers. By providing a lower level of costs and a higher quality of products, a company gains competitive advantage. Unreliable cost information leads to frequent and expensive mistakes in decision making. Customers are very discerning – their demands are constantly changing and are becoming increasingly sophisticated. Globalization and hypercompetition, among other things,
diminish the importance of prices as a conventional factor of competitive advantage, which forces companies to find new ways of protecting the existing markets and breaking through in new ones. In addition to lower costs/prices, the increasingly demanding customers insist on quality, time and innovations, which in turn creates a need for shifting from mass production of standardized products and economies of scale to a more flexible production of small batches of a variety of products and economies of scope. Management needs to attentively and continually monitor the key strategic variables to compare them against the competitors, which goes beyond the company and indicates the changes in external environment which are carefully surveyed and assessed by their customers, as well.

The information revolution or the transformation from industrial to information (post-industrial) society, which is still ongoing, has shifted the focus from producing goods to providing services. Knowledge and information are becoming strategic resources able to transform the society, given that all its aspects are starting to be more and more dependent on electronic information and supporting technologies. Intensive development of information and communication technologies significantly accelerates processes and activities and drastically shortens product life cycles. What is particularly important is the fact that since the 1990s, information technology has entered the stage of development which has enabled the emergence of a new business concept – business network. Hence, one of the most important aspects of globalization is directly related to business networking. Namely, the internet technology and the use of various applications have produced significant changes, and for many companies this means a complete transformation in doing business. The main advantages of the internet technology are as follows: a significant reduction in information collection costs and easy access to information; providing information that significantly facilitates the decision-making process; accelerating and allowing high-quality and direct communication with suppliers and buyers, and the like (Đuričin, Janošević & Kaličanin, 2010). In addition, the development of information technologies has proven that the price-quality ratio is not a zero-sum game any longer. In fact, IT makes it possible to combine lower costs with a higher level of product and service quality, or, in other words, it allows for the so-called win-win strategy. It should be stressed that most industries today which exhibit the highest growth rate base their business operations on information technologies. Typical examples are the production of semiconductors, computers, various telecommunication devices and robots.

Dramatic changes also have an impact on the need to establish new and more flexible organizational structures and managerial company structures. Respecting the specificity of the modern business environment, the importance of the matrix and team organizational structures is being particularly emphasized, as they enable the creation of a flexible organization capable of responding quickly to sudden changes. This differs from the functional organizational structure that reduces the ability and speed of a company’s response to numerous and turbulent changes. Also, flexible systems
of production are better suited to modern conditions, as they can efficiently meet a diversified demand for products, or rapidly implement innovation, which is of vital importance in terms of shortening the product life cycle. More specifically, the time required to launch a new product into the market is significantly reduced.

Modern production technologies accompanied by computerized and highly productive systems are increasingly utilized. It is of utmost importance to achieve flexibility through the implementation of a Flexible Manufacturing System (FMS), which involves physical organization of the manufacturing facilities and the use of automated technologies, such as: Computer Numerical Control (CNC) machine tools – which can perform multiple operations with little human assistance; Computer Integrated Manufacturing (CIM) system – a completely automated environment with eliminated non-value-added activities; Robotics – production robotics where robots are programmed to perform specific activities many consecutive times with a high degree of precision; it is often used in hazardous environments as well; Computer-Aided Design (CAD) – enhances precision by automating repetitive design tasks and makes it possible to respond faster to market demands (product design has experienced a boom due to CAD technology, which was first used in the aerospace industry in the early 1960s); Computer-Aided Manufacturing (CAM) – is the use of computers to assist manufacturing where the system monitors and controls the production process and moves the product from one manufacturing cell to another (Hall, 2013; Hansen & Mowen, 2013). Three information systems are being considered – Material Requirements Planning (MRP), Manufacturing Resource Planning (MRP II), and Enterprise Resource Planning (ERP) as informational support to new and flexible production systems in the world’s top companies. A number of software programs of the so-called ERP system have recently been developed. ERP integrates departments and functions throughout the company into a system of integrated applications with a shared database. In addition, a successful manufacturing company needs to have an ERP system suitable for external communication with buyers and suppliers by using the electronic data interchange. The application of the ERP system inevitably implies issues such as the supply chain management and data storage, and a generation of software based on the global supply chain has been developed. It is made up of a series of compatible application software of separate companies that interact with each other. However, the most frequent problems lie in customs duties, taxes, differences in language and culture, rapid exchange rate changes and political instability.

Modern environment is rife with many complex challenges and problems, whose successful solution requires adopting new management approaches and philosophies (value chain analysis, establishing long-term relationships and close cooperation with key buyers and suppliers, continuous improvement, broader employee empowerment, etc.), which all share a universal motif: to master the key strategic variables/success factors (costs, quality, prices, innovations) and deliver superior customer value. A more successful competitive positioning of the company always entails adopt-
ing a wider external orientation by meeting the extremely changing and sophisticated customer demands, as well as by deepening and strengthening business cooperation with key buyers, suppliers and distributors. Competitive success of the company is fundamentally determined by the quality of its management. As the most sensitive resource, or the factor which significantly determines whether the company will be successful or unsuccessful, the management needs to possess sophisticated professional knowledge and skills, creativity and initiative so as to be able to match the internal potentials with the demands of the unstable environment and thus motivate and incite all the members of the company to act in order to fulfill the long-term goals. Among many alternatives, management needs to choose a strategy that will create sustainable competitive advantage for the company and enable its superior performance in the market.

In today’s extremely dynamic, unstable, unpredictable and multicompetitive business environment, traditional generic structures – cost leadership, product differentiation and market focus – are being criticized for excessive inertia or passivity. Therefore, a better response to multicompetition in these new business settings is the confrontation strategy (Cooper, 1995), which, by integrating key ideas of traditional generic strategies, puts stress on the so-called survival triangle or managing the basic product-related characteristics – costs/prices, quality and functionality. A successful implementation of this strategy requires employees to change their values and beliefs, that is, their corporate culture, which implies a constant improvement of their knowledge, skills and aptitudes. In this new approach, employees are a key strategic factor in creating company performance and achieving sustainable competitive advantages.

As the management becomes aware that a more successful positioning depends on the ability to meet the increasingly sophisticated and extremely variable customer demands, it directs the activities of the company that strives for a leading position toward satisfying customer wishes or striking an optimal balance between the constantly growing customer demands and the company’s desired profitability. Let us remember that one of the critical success factors in implementing competitive strategies in the market is developing a rounded performance measurement system. One of the solutions is the Balanced Scorecard (BSC), which provides a comprehensive framework that translates a company’s strategic objectives into a coherent set of performance measures (Zimmerman, 2009; Kaplan & Norton, 2004). In an attempt to emphasize the need for combining financial and non-financial, historical and future measures, the BSC, as an integrated and strategic tool, tends to group together and balance in a single management report the fundamentally important perspectives for a successful implementation of competitive strategies in the market: traditional financial perspective (which complements financial measures of the current performance with projections of the future financial results) with three other perspectives – customers, internal business processes and learning and growth (innovation and improvement activities). This system of performance measurement strikes a balance
between: external measures which relate to shareholders and customers, and internal measures which pertain to internal business processes, and learning and growth; success factors, as the result of past performance and measures of future performance; objective success factors that are easy to quantify, and subjective and qualitative performance measures (Kaplan & Norton, 1996). In addition to balancing performance measurement, the BSC is also used for defining causal relations between the perspectives within a specific strategy. Most often, when applying the BSC, managers usually realize that for the implementation of a new strategy it may be much more important to be outstanding in entirely new processes than to create conditions for cost improvement in the existing ones (Cooper & Kaplan, 1999).

Based on the arguments above, it is obvious that in a new, dynamic and utterly uncertain environment, managers face numerous, diverse and complex challenges, and that achieving sustainable competitive advantages requires professional knowledge and skills, creativity, initiative and enormous experience. In addition, there is a need for a reliable information support, which inevitably emphasizes a crucial role of the cost accounting information system – a key information core of the company in generating high-quality information as a support to modern mechanisms of managing, that is, to an accountant – as an intellectual resource of the company. The cost accounting information system is based on the following fundamental principles: cost effectiveness, useful output and flexibility so that it can meet the contemporary challenges. In order to be efficient and effective, it needs to be carefully planned, designed, implemented, sophisticated and well-managed. Only a flexibly designed cost accounting information system can qualitatively respond to numerous and various information demands – as such, it will be able to adjust to dramatic changes that occur both in the business environment and the company itself (Hansen & Mowen, 2013). It is important that such a system should offer useful information for high-quality business decision making, and particularly that it supports cost management analysis and projects.

Managers in today’s conditions of doing business need accurate and timely information about the process and activity-based costing, product costs and other cost objects. By providing this information, an adequately organized system of cost accounting creates value for the company’s management and allows insight into potential sources of cost advantage. The given information is valuable to the management in assessing alternative ways of doing business and in comparing its own business with that of the other companies. Therefore, it is evident that an adequate system of cost accounting may prove to be invaluable for formulating and implementing business strategies.

Regardless of the specific business strategy, the company is inevitably faced with the demand for cost competitiveness. In an attempt to improve the information offer, as a reliable support to the management in searching for sources of competitive ad-
vantages in the market, cost accounting needs to adopt a wide external perspective on business processes. This is achieved by a continuous comparison against the performance of the major rivals in the market to gain real insights into the relevant cost competitiveness of the company, and potentially signal the necessity to redefine competitive strategies.

3. LIFE CYCLE COSTING AND COST MANAGEMENT

Since costs are one of the components of business performance whose limit can be significantly influenced, it is understandable why they were and still remain the subject of great interest. In the recent decades, efforts have been made to broaden the strategic perspectives of cost accounting so that it can report more intensively on the external market parameters (buyers’ demands and competitors’ behavior), which entails the involvement of financial and non-financial indicators (costs, prices, sales volume, the level of customer satisfaction, the relative market share of both its own products and those of the competitors, technological innovations, new product performance and the like). There are noticeable attempts toward separating cost accounting from traditional accounting, by abandoning the long-standing linearity of measuring historical costs and static standards. The prevailing cost accounting orientation, which involves passive performance measurement and reporting, needs to give way to a much wider and significantly more proactive approach to cost management in order to provide reliable information support to the increasingly demanding company management in designing and successfully implementing competitive strategies. Only an integrated or a holistic process-based approach provides an opportunity to lead the company in gaining competitive advantage in the most effective way.

The development of cost management is closely linked with the modern challenges that companies are facing with. It is obvious that for the last couple of decades this has become a dynamic process that includes intensive efforts aimed at constant improvement or enhancement of the existing techniques and inventing new ones, starting from the early Activity-Based Costing (ABC) models to the more recent Strategic Cost Management (SCM) – using cost data to develop and identify superior strategies that will create a sustainable competitive advantage. The most noticeable trend has been shifting the focus from determining product costs by using standard traditional cost models (Jablan, 2017) toward providing support for strategic and operational decisions by adopting certain forms of the process and activity analysis.

As a conceptual framework for the strategic cost management of contemporary companies, the Value Chain (VC) concept is viewed as the broadest approach to management, since it allows, by analyzing strategy-relevant activities, to perceive more easily the possibilities of achieving a sustainable competitive advantage. The use of value chain and activity costs provides companies with the opportunity to identify strategic advantages in the market. Value Chain Analysis (VCA) implies monitoring
the relations among value-creating activities with the aim of reducing costs, where
the overall issue of tracking, measuring, analyzing and managing costs goes beyond
the company. The concept of the “extended company” involves a set of activities of a
number of companies aimed at connecting producers with end users. More specifi-
cally, beside internal value chains, the focus expands to supply chain as well, that is,
the suppliers, and to the distribution chain, i.e. customers-distributors and end users,
because the internal value chain of the company is built into a broader value system
which includes both supply value chain and customer value chain. The implemen-
tation of competitive strategies requires the company management to understand
all the activities that contribute to their successful implementation, which inevitably
means understanding the industrial value chain in its entirety, not only the portion
in which the company participates. Without external focus, there is no effective stra-
tegic cost management, which means that breaking down the value chain into its
strategically relevant activities is essential for successful implementation of the differ-
entiation strategies. In addition, it is necessary to understand both the complex links
and interrelations between activities performed inside the internal value chain, and
those which describe linkages of the company’s activities both with the supplier value
chain activities and customer value chain activities. Therefore, the value chain analy-
sis means identifying and exploiting internal and external linkages with the objective
of creating a sustainable competitive advantage, while the exploitation of linkages
relies on analyzing how costs and other non-financial factors vary when considering
different sets of activities (Jablan, 2017).

A comprehensive and integrated approach to cost management corresponds to mod-
ern turbulent conditions of business operations. An integrated cost management sys-
tem, where competition exists not only among companies, but also in value chains,
is a combined application of a number of new concepts, tools, methods, techniques
or approaches to costing and cost management. A key to an integrated cost man-
agement is synergy – better quality of cost management may be provided by using
a number of complementary approaches to cost management rather than just one.
Advocates of integrated cost management emphasize that one of the basic shortcom-
ings of traditional approaches, and some newer ones as well, is the fact that they “start
too late, and end too early”. Since strategic cost management refers to a long-term
perspective, the importance of the life cycle concept as an adequate time framework
for strategic cost management of contemporary companies based on the value chain
concept is particularly stressed.

*Life Cycle Costing* (LCC) links all the costs incurred during a product’s life cycle,
from product conception or introduction to its removal from the production pro-
gram and withdrawal from the market. The focus is on activity costs which are
grouped in the following three stages: pre-production/manufacturing stage (research
and development costs, product design costs, engineering and supply costs); pro-
duction/manufacturing stage (costs of basic, side and auxiliary production activity);
post-production/manufacturing stage (selling, maintenance, after-sales and withdrawal/abandonment costs, as well as environmental protection costs). Products are analyzed in order to determine whether they will make profit during their entire life cycle. Another integrated approach, Life Cycle Cost Management (LCCM), consists of activities which contribute to product design, development, manufacturing, marketing, distribution, use, maintenance, servicing and disposal so as to maximize life cycle profits. As a result, product costs are tracked and analyzed through all the stages (pre-production, production and post-production) of the product life cycle that is radically being shortened due to the changing customer demands and increasingly ambitious competition with regard to technological product innovations. In modern settings, it is of vital importance to launch a new product into the market, that is, to replace the existing product with a technologically improved one as fast as possible.

LCCM emphasizes cost reduction, not cost control. Since 90% of the product life cycle costs are determined in its design process, that is, in the stages of product development and construction, activity management during this stage of product conception is particularly stressed. This should certainly affect managers’ decisions on investing more resources in activities in the early stages of the product life cycle. However, the overall success depends on how well the manufacturing managers understand activities, cost drivers, as well as the interaction among activities. Although LCCM is important to all companies, its significance is particularly stressed in the cases of short life cycle products, when good life cycle planning is critical and the prices must be properly determined in order to cover all life cycle costs and ensure a high profit.

With regard to life cycle management, several relevant tools, techniques or concepts will be mentioned, such as: Target Costing/Cost Management, Kaizen Costing, Environmental Cost Management, and Take-Back Costing.

**Target Costing** is a tool which emphasizes the relation between the price and the market share as a basis for disciplining company expenses during product and process design, development and engineering. It was developed in Japan in the 1970s, with the basic conceptual aim of improving the strategic position of the Japanese companies in the global market and strengthening their competitive advantage. In essence, it implies cost reduction per product unit. It is a completely new approach which answers the question: How much is a product allowed to cost? The implementation of new methods of identifying, measuring and providing information about critical factors of business success ensures the development of products which will meet customer demands regarding not only the features and quality, but also the price. As a concept of information support to cost management in a more adequate, comprehensive and aggressive way, Target Costing is built into the decision-making (planning) process concerning the introduction of new products and processes and making more radical changes to the existing ones. **Target Cost Management**, as a tool for comprehensive cost and profit management and as a concept of the long-term...
strategic cost management, focuses on the design stage – it initiates cost manage-
ment in the earliest stages of product development where the effective influence on
future costs is very likely, and aims to intensify cooperation with suppliers and oth-
er organizations in the market. The product price that the customers are willing to
pay is analytically determined, reflecting quality, design, delivery time and after-sales
services. On defining the product and its target price, target profit is formulated,
whereby total target profit and its per-unit allocations are deducted from the strategic
profit plan. If target costs, as the difference between the selling price needed to cap-
ture a predetermined market share and the desired per-unit profit, are less than what
is currently achievable, the management budgets cost reductions that move actual
costs toward target costs (Drury, 2012).*** Reaching target costs includes product and
process design until a desired level of target costing of the entire product life cycle is
achieved – according to product components and target features. Given the organi-
zational aspect, a successful implementation of the Target Costing concept assumes
the creation of an organizational structure of a team which should include experts
from different functional areas of the company, as well as from the organizations
with whom it cooperates in the market. There are six key principles of the Target
Costing concept: price-led costing; focus on customers; focus on design; teamwork
(cross-functional involvement); life cycle orientation; and value-chain involvement
(Ansari & Bell, 1997).

It is well known that improvements can be made in different ways, that is, by us-
ing various methods. Innovations usually refer to considerable and radical changes
which occur quickly, which are more comprehensive and easy to recognize – in other
words, innovations can be viewed as great improvements made by significant in-
vestments in technology, equipment and new processes. Unlike innovations, Kaizen
involves small changes that result in small cost savings, which leads to achieving sig-
nificant results in the long term. Thus, Kaizen Costing, as one of the new segments of
business philosophy and concepts of cost management, refers to a bundle of different
methods and procedures used for continuous cost reduction in the production stage.
Kaizen focuses on small, incremental improvements of an already adopted design
and technological processes and involves all employees. This particularly refers to
workers who are empowered to put forward their ideas and suggestions about new
cost savings and improvements or reduction of actual production costs, and who
are more directly involved in the actualization thereof. It is consistent with other
new approaches and concepts of cost management. Since Kaizen Costing focuses on
the production stage, it can be viewed as an extension of the cost reduction concept
built upon Target Costing. Therefore, the main differences between Target Costing
and Kaizen Costing are as follows: the former is applied during the design stage,
whereas the latter is applied during the production or manufacturing stage of the
product life cycle; the former focuses on the product and cost reduction is primarily

*** It is possible to achieve the objectives in the production stage through Kaizen Costing, which follows
the concept of Target Costing.
achieved through product design, whereas the latter focuses on production processes and cost reduction is primarily achieved through greater efficiency in the production process; the main characteristic of Kaizen Costing is giving employees authority and responsibility over process improvement and cost reduction (Drury, 2012). It must be also borne in mind that Kaizen is a much wider concept than Kaizen Costing. Also, Kaizen Costing, as a new approach to costing and cost management, should not be viewed as an auxiliary tool used to achieve the Target Costing objectives. More precisely, irrespective of whether the target cost is achieved or not, continuous, incremental improvements aimed at cost reduction and efficiency improvement of the production process (a fundamental idea of Kaizen Costing) need to become a way of thinking and acting.

*Environmental Cost Management* – the analysis of the life cycle costing concept would be incomplete if the need for cost control and reduction in the post-production stage was not taken into account. Many studies have confirmed a significant increase in costs involved in the post-production activities, such as sales costs; after-sales costs; the costs of product abandonment and disposal; and environmental protection costs. In the recent years, the emphasis has been placed on the relevant (financial and non-financial) information related to different issues of environmental protection, such as, in the first place, the specificity and importance of different types of the company’s environmental protection costs and their adequate costing techniques. Environmental Cost Management is becoming growingly important in many organizations due to several reasons: in some industrial sectors, environmental costs are high; the number of regulatory demands have increasingly risen over the last decade; the society requires companies to be more focused on improving environmental protection. Reporting on environmental costs and their causes opens up the possibilities for cost reduction through redesigning the processes, which would lead to a reduced use of hazardous materials or pollutants. Thus, the necessity for periodical environmental cost reports that adopt the classification similar to the one used for analyzing total quality costs is particularly stressed. Total environmental costs are classified into four categories: environmental prevention costs; environmental detection costs; environmental internal failure costs; and environmental external failure costs (Drury, 2012). Accepting responsibility for product take-back upon the end of its life cycle is of fundamental importance and many legal solutions have been adopted so that producers should feel obliged to “take care of” the product at “the end of life” stage. Companies need to improve the techniques for identifying and monitoring current and future environmental costs to measure the effects of “take-back” on product costs and capital investments. As a result, *Take-Back Costing* based on the “pollutant pays” principle (Atasu, Van Wassenhove & Sarvary, 2008) has been introduced, that is, the one who “produces” waste should also be the one responsible for its recycling and disposal. The underlying idea is to bring back to the industry what it has produced.
after the customer has stopped using the product. This is also, among other things, one of the indicators of corporate social accountability.

4. COST MANAGEMENT IN A LEAN MANUFACTURING ENVIRONMENT

In the modern, dramatically altered business environment, achieving and sustaining competitive advantage has practically become the prerequisite for a company's existence. Among numerous concepts, methods and instruments, the concept that particularly stands out is the lean concept, which makes achieving and sustaining significant competitive advantages possible. Lean philosophy promotes cost reduction, elimination of any form of waste, continuous improvement of quality and speed of response to customer demands. Meanwhile, the implementation of the lean concept is predetermined by understanding individual value streams. A company's value stream includes all steps within the process that are essential to the manufacturing of a product – steps that the customer is willing to pay for. Therefore, the core of this business approach is a continuous effort toward eliminating waste, i.e. it is a concept that has the potential to change the ways business is done and create radical performance improvement (Gordon, 2010; Hall, 2013).

The key idea behind this system, which places the customer in focus, is to enable, through process optimization, the production of a cheap product on time and of the best possible quality. Lean manufacturing (LM) is the very example of such a system. LM developed from the Toyota production system based upon the JIT model. It assumes a shift from the economies of scope to the economies of scale, and is particularly suitable for the assembly-type industries (aviation, automotive and mobile telephony). Automation lies at the core of LM philosophy (Hall, 2013). It is flexible, computer integrated, conducted in a “lean” flow, without interruptions or inventory – it enables a significant increase in company productivity, a drastic reduction in inventories and an impressive reduction in the delivery time of products to end customers. Its introduction ensures a continuous process of systematic identification and elimination of unnecessary business activities – that is, the elimination of everything that does not have value from the customer’s point of view. Therefore, costs are significantly reduced, and small, but long-term financial benefits can be gained as a key to achieving a long-term sustainable competitive advantage. In addition, nowadays, when product life cycle is being drastically reduced, LM provides companies with an opportunity to adequately meet numerous and sophisticated demands of end customers, both in terms of low price/cost, as well as in terms of quality, time and innovation. Striving for a leading position, many companies adopt LM, whose goal is to improve efficiency and effectiveness in each field – including product design, interaction with suppliers, factory operations, staff management and customer relationships. “Lean” involves placing the right product to the right place, at the right time, in the right quantity, while minimizing waste and sustaining flexibility.
There are five key principles of the lean concept (Womack & Jones, 2003; Hansen & Mowen, 2013): Value – the key principle of LM is that the value (critical starting point of lean thinking) can be defined only by the end customer; Value stream – it is necessary to identify the value stream for each family of products, which aims to expose the wasteful activities that exist in the process and to take action to eliminate them; Flow – when all the wasteful steps are eliminated, the other steps that create value should be organized so that they unfold smoothly, which involves moving away from the traditional organization by functions or departments and converging toward a holistic, customer-focused organization set up along the value stream lines (lean manufacturers usually adopt cellular manufacturing); Pull – unlike traditional production methods (which tend to “push” the product through the system in the hope that the customers will buy it when it has been produced), the new system involves starting the production exclusively at the request of the customer (according to customer requirements and the JIT principle, only the required quantity of the product is “pulled” through the production process, and overproduction is thus avoided); Perfection – with the lean practice being widely adopted, it is becoming clear that progress is a continuous process. Lean manufacturers are adopting the philosophy of continuous improvement.

In an effort to implement the relevant principles within the company, a number of tools and techniques can be used, such as: Cellular Manufacturing, Total Productive Maintenance, Pull/Kanban Systems, Value Stream Mapping, Quick Changeover, Workplace Organization, Production Preparation Process, Kaizen, Lean Six Sigma (El-Homsi & Slutsky, 2010). Success, to a large extent, depends on the understanding of employees and adoption of the lean manufacturing principle.

The key to successful LM lies in the achievement of manufacturing flexibility that includes the physical organization of production plants and the application of automated technologies. Also, companies inclining towards LM often use a tool – value stream map (VSM) to present their business process graphically in order to identify the wasteful aspects which should be eliminated. VSM identifies all activities needed to complete product processing (batches or individual products), including the key information about each individual activity. It is obvious that the information will vary depending on the process observed – it can include total labor hours, overtime (delay), cycle time for the task completion, error rate. Alongside the current state map, some commercial VSM tools produce a future state map, describing the process which is more “lean” – where waste is eliminated. Since it is possible to identify, from the latter map, the steps of the action of eliminating non-value-added activities of the process, it is also the basis for the lean implementation plan.

Lean manufacturing environment significantly affects accounting. Many companies in various industries which adopted lean working practices have begun to realize that lean initiatives are often not supported by purposeful and rigorous methods of
accounting and cost management, and that traditional accounting methods can be in conflict with the initiatives they apply (Womack & Jones, 2003). Information needs of a lean company cannot be adequately supported by traditional information provided by conventional accounting techniques. Given that traditional standard costing techniques do not support the goals of the lean manufacturing companies, there is a need for new accounting methods and new information that: show what is important to customers (such as quality and service); identify profitable products; identify profitable customers; identify opportunities for improvement of operations and products; encourage the adoption of activities and processes that add value within the organization and identify those which do not; efficiently support multiple users with financial and non-financial information (Hall, 2013). Consequently, modern accounting practice offers two alternative accounting models for lean companies. Numerous companies see the solution in the ABC method, i.e. Activity-Based Costing (ABC), but many others, because of its complexity, replace it by a simpler accounting model of the so-called Value Stream Accounting (VSA). It is suggested that a company can use both ABC/ABM and lean. ABC/ABM will improve the accuracy of the company’s product/service costs and help it to reduce/eliminate activities that do not add value to its customers, but at the same time, the company can apply the lean approach to simplify processes, use resources effectively and eliminate waste (Needles & Crosson, 2011).

ABC emerged primarily as an effort to provide much more accurate data on the performance cost price compared to traditional methods, and is considered to be a milestone in the development of cost accounting. It focuses on activities as parts of the overall process of the company and their cause-and-effect relationship with the resources spent thereon, as well as with the cost objects or activity drivers. However, the management can use it not only for calculation purposes, but also for providing financial and non-financial information on activities, as well as for effective cost management – as a significant ABM tool. Although ABC is being promoted as the basis for making better strategic decisions and improving company profitability, the essential improvement not only of organizational, but also methodological bases of ABC, was made possible only with the emergence of modern information systems and the construction of an integrated ABC. In addition, the development of the ERP system has contributed to the development of a new approach – Time-Driven Activity-Based Costing (TDABC), based on time equations. This model can be easily updated to reflect the change in the operating conditions of the business.

Activity-Based Management (ABM) focuses on managing activities in order to increase the value that the customer receives and the profits obtained by providing this value, which implies analysis of drivers, activity analysis and performance evaluation. In doing so, the main source of information is ABC. Using information on costs of different activities helps managers identify the activities that do not add value to a product but use resources, and also prompts managers to redesign expensive produc-
tion methods. By eliminating a number of activities that do not generate value, the company reduces costs, but it also increases the value for customers, as the number of products rejected and returned by customers is reduced.

Modern methods of market research, business performance measurement, as well as other important information produced by the ABC system, provide elements for an appropriate process of strategic planning and implementation of business strategy in a company. An indispensable technique for implementing and formulating a business strategy in modern companies is the *Balanced Scorecard* (BSC) (Kaplan & Norton, 2004). In the BSC, the desired achievements, i.e. goals, are operationalized through the criteria used to monitor their actualization, so that afterwards the precise, quantified and timely tasks and actions for that actualization could be defined. ABC and BSC represent two modern complementary concepts (Kaličanin & Knežević, 2013). A direct link exists when the BSC encompasses all relevant information connected to gaining competitive advantage, which means that the information obtained from the ABC system will also be included.

Thus, following the ABM approach to company management, the management’s attention is focused on the company activities and implies a set of decisions and actions based on the information obtained from the ABC concept. The goal is to increase the value delivered to customers and to raise the profitability of the company to a higher level. The focus is on strategic and operational ABM. Strategic ABM directs the organization toward the most profitable use of resources, while operational ABM includes decisions and activities aimed at continuous improvement of business processes. The benefit of the analysis of activities lies, primarily, in the classification of the cost of activities in line with the possibilities for cost reduction.

The application of a business strategy implies an analytical approach that directs the attention of managers in their search for sources of competitive advantage to the level of activity. Activities (as elements of business processes) are the basic level of value creation. Such a philosophy led to the creation of new cost accounting techniques, and in turn to financial planning (budgeting). A high-quality Activity-Based Costing and Activity-Based Budgeting could be the basis for efficient implementation of business strategies.

*Activity-Based Budgeting* (ABB) extends the ABM idea to the planning cycle and uses benchmarking information to help the company control costs and eliminate the growing trend of exceeding the budget without improving the company’s ability to create value for customers (McNair, 2007).

A significant number of companies replace the conventional costing method with the ABC method. There are numerous advantages to this (Hall, 2013): more accurate costing of products/services, customers and distribution channels; identifying the most and least profitable products and customers; precise tracking of the costs of
activities and processes; providing managers with real cost information in order to achieve continuous improvement; making a better marketing mix; identification of waste and non-value-added activities. However, this accounting method may also be subject to certain criticisms from the standpoint of lean. Given that change in lean companies is continuous, that is, products and processes constantly change, the costs of the activities and their drivers also change. The costs previously allocated to individual activities and, through them, to certain products, become inaccurate and this situation results in the so-called “ABC paradox”. The main advantage of this accounting method turns into a major disadvantage in lean companies, because the existence of multiple cost drivers requires continuous processing of various and variable drivers in the cost analysis for the purpose of improving the business. Therefore, ABC becomes too complex and difficult to understand, which is contrary to the lean business philosophy – the simplification of business processes and the elimination of all forms of waste.

The very idea of Lean Accounting (LA) or Value Stream Accounting (VSA) appeared in the early 1990s, but it was not used in its present form until the first decade of the 21st century. Its primary advantage is emphasized (compared to all the previous approaches) – value stream tracking and costing, rather than dealing separately with products, departments or activities. LA is designed to meet all the challenges of a modern business environment and respond to accounting requirements in the environment of lean manufacturing systems. It is relatively easy to use and understand, and it also has a built-in mindset in the business process control system itself. Its tasks involve: establishing a performance measurement system that will motivate lean behavior at all organizational levels and encourage continuous lean improvements (as the relevant measures directly affect the business strategy of the company, they should be the basis of operational and financial control); identifying financial benefits of lean improvements and establishing a strategy for their continuous increase; implementing more appropriate ways for tracking and costing products and value streams that will provide reliable information on costs for making business decisions and increasing profitability; eliminating all forms of waste in accounting, control and measurement systems; redirecting the time of employees in finance to work on lean improvements, strategic issues, and encouraging them to become factors of change in the company (inherent to a large number of lean companies); focusing the overall business on the value created for customers (Maskell & Baggaley, 2004).

Given that LA came into existence as a response to the challenges of a different way of calculating and tracking costs, performance measurement, reviewing business results and compiling reports for the needs of a lean company, the underlying idea on which it is based does not differ from the very essence of the lean business concept – it divides processes of creating products into value streams, activities that create value for the customer and, consequently, for the company itself. LA treats the costs associated with the established value streams in the same way. Namely, VSA tracks costs by
value streams, where value streams cut across the line of functions and departments, i.e. horizontally, thus breaking links to traditional vertical reporting on the structure and cost flows. For its implementation, it is extremely important to define the product family. Namely, products are grouped by natural families, which share common processes from the point of placing orders to the delivery of finished products to customers. In most companies, there are several value streams that relate to different product families and different market channels. By looking at the sources of the cost, the company can carefully track all financial implications within the value stream in order to see the appropriate points for improvements and savings.

The goal of LA is to make all information on defined value streams in the company transparent to all organizational levels so that everyone could work together to achieve the perfect harmony of the overall business process. The fact that lean production philosophy insists on complete elimination of all forms of waste, especially inventory, leads to a significant change in the role of cost accounting within the new accounting system. Relevant cost information is crucial for the successful management of value streams, so it is necessary to fully focus on the costs of activities and processes that occur in the existing streams. The tasks of cost accounting, in this context, consist of a complete visualization of costs along a chain, as well as of their more accurate linking to objects whose profitability is measured, whether they are products, activities, customers, distribution channels or some narrower organizational segments of the company.

Bearing in mind that it changes the way of approaching costs, VSA also changes the way that performance is measured (at the company level, at the level of value streams and cells). After the initial introduction of lean business philosophy in all parts of the business entity, in accordance with the idea of continuous improvement, all employees become responsible for contributing to the improvement of business in an appropriate and systematic way. Achieving maximum profitability is no longer associated with the traditional way of measuring performance, but with the fact that it depends on achieving the maximum product flow through the value chain initiated by the customer. This way of measuring performance ensures continuous focus on the main goal of the lean business concept – constantly working on improvements, while eliminating everything that is unnecessary and redundant. According to the essence of lean, the accounting system itself must be lean. Namely, accounting and control systems, as well as performance measurement systems, should not require additional information that is not already required by operational personnel for the physical control of the process. Also, companies that are introducing LA approach financial risk control in a completely different way (compared to traditional companies).

By analyzing value streams and processes, high risk activities are located and all the necessary efforts undertaken to eliminate the identified weaknesses. In the process, the employees in the financial and accounting departments play an important role.
They spend a large amount of their working hours dealing directly with employees in operational departments to improve the current processes and reduce costs, while devoting much less time to processing transactions and generating reports, which is completely contrary to the traditional system. In doing so, LA becomes an integral, active part of the lean company, focused solely on finding ways to save, keeping in mind the customers’ needs and demands. Proper implementation of LA creates the basis for the development of Lean Management System (LMS) designed to provide appropriate plans, operational and financial reporting and to motivate change.

The basis of LA lies in Value Stream Costing (VSC). As the overall business process is divided into appropriate value streams – completely separate units, it is necessary to determine costs caused by the functioning of one such unit, as well as its performance costs – the end product or the product family. VSC provides full, accurate and timely information about the production costs of a particular product family due to the following features: financial data are collected at the value stream level, not at the product or the business operations level; reports on the collected financial data are compiled on a weekly (or monthly) basis; all costs within the value stream are considered direct – that is, unlike traditional accounting, there is no difference between direct and indirect costs; the application of simpler methods for collecting financial data and reducing the number of cost centers; eliminating unnecessary costs that are not under the control of a value stream manager provides a “true picture” of the profit and loss account; costs outside the value stream are called “maintenance costs” and are not allocated to the defined value stream (they are not relevant); emphasis is placed on maximizing the flow of products through value streams, rather than on the production. The costs of certain activities (within the value stream and auxiliary processes) are allocated to each product family, depending on how each family uses the activities. Since most companies produce more than one product (within the product family), the costs of individual products and services associated with the products concerned will vary depending on the particular characteristics and features of the product.

In order for the Value Stream Costing to work properly, several conditions need to be met (Maskell & Baggaley, 2004): reporting should be kept at the value stream level, not at the departmental level; it is necessary to make a clear division of employees and machines by value streams; it is important to establish an adequate control of production processes and reduce their variability; inventories must also be kept under control, at a relatively low level and consistent.

Since VSC has many advantages, the statement that this is a relevant, timely and comprehensible information basis for high-quality business decision making can be regarded as true.
5. CONCLUSION

In the contemporary dramatic business environment, companies can be successful only if they possess the ability to anticipate strategic challenges and dangers and to take the opportunities before their competitors do, that is, if they can devise and implement an integrated approach. Today, they have at their disposal numerous modern information support techniques to help the management create an optimal balance between key strategic variables. Competitive success of the company is fundamentally defined by the quality of its management.

The company is an open system that remains in constant interaction with its environment, and all the changes in the business environment lead to changes within the company itself. Consequently, an adequate management response is the condition for survival, growth and development of a modern company. The only proper way is to react quickly by changing and adapting the organizational structure, the production process and product design according to the changed customer requirements.

Dramatic changes also have an effect on the need to establish new, more flexible organizational and managerial company structures. Respecting the specificity of the modern business environment, the significance of the matrix and team organizational structures is being stressed, since these enable the creation of a flexible organization capable of responding quickly to changes that have occurred, which is not the case with the functional organizational structure that reduces the ability and speed of a company’s response to numerous and turbulent changes.

Achieving and improving competitive advantages is not possible without an appropriate information system. The prevailing cost accounting orientation, which involves passive performance measurement and reporting, needs to give way to a much wider, significantly more proactive approach to cost management in order to provide reliable information support to the increasingly demanding company management in designing and successfully implementing competitive strategies.

Without external focus, there is no effective strategic cost management. Integrated cost management, in the environment where there is competition not only between companies, but also between value chains, implies the combined application of a large number of new concepts, tools, methods, techniques or approaches to costing and cost management in an effort to improve the quality of information necessary for successful management of the company. A flexibly designed cost accounting information system is a basic source of information useful for business decision making and plays the role of a key information core of the entire accounting information system of the company.
6. REFERENCES


TOWARDS IMPROVEMENTS OF CORPORATE GOVERNANCE IN STATE-OWNED ENTERPRISES IN SERBIA: HOW CAN A SYMBIOSIS BETWEEN BETTER BOARD STRUCTURING AND GOOD INTERNAL CONTROL HELP?

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Abstract: In this paper we focus on how to improve corporate governance in state-owned companies in Serbia. Research into the development of corporate governance in public enterprises founded by the Republic of Serbia has shown that it is not adequately developed. Despite the fact that institutional framework for corporate governance is largely set, the lack of awareness of the importance of this process, the lack of knowledge in the respective field, and the lack of political willingness to improve governance structures significantly hinder further development towards a more efficient and effective system of corporate governance in SOEs. Consequently, corporate governance in SOEs is carried out only in some of its components, formally rather than substantially, and to a different extent in different enterprises. We explain why the level of corporate governance in public enterprises founded by the Republic of Serbia is evaluated as unsatisfactory, and present specific recommendations for its improvement.

Keywords: corporate governance, state-owned enterprise, board structuring, internal control.

JEL: M10, M19, G34
Field: Business

1. INTRODUCTION

Corporate governance is now one of the most researched issues in economy in general, and research findings suggest that high-quality corporate governance is a precondition to business success (Jensen & Mackling, 1976; Fama & Jensen, 1983a, 1983b; Williamson, 1985; Eisenhardt, 1985, 1988, 1989; Baysinger et al., 1990; Donaldson & Davis, 1991, 1993; Davis, Schoorman & Donaldson, 1997; Shleifer & Vishny, 1997; La Porta et al., 1999; Franks & Mayer, 2001; Dalton et al., 1998, 1999).

Studies of corporate governance in companies in Serbia, on the other hand, are very few (Bogićević, 2006; Babić, 2006, 2010; Todorović, 2011; Babić, Erić, & Nikolić, 2013). The Republic of Serbia is the founder of 33 companies that are governed by the Law on Public Enterprises (“Official Gazette of RS” No. 15/16, hereinafter referred to as: the Law), which are of great importance to the overall Serbian economy and the citizens. Therefore, the need to improve corporate governance in SOEs is defined as a strategic objective in the reform of the Serbian economy so that these

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companies could achieve better business results. When it comes to SOEs in Serbia, understanding the notion of corporate governance usually covers a set of rules by which the internal organisation functions, directors and members of management bodies are elected, and the state as the owner runs control; as well as an envisioned organisational system of planning and reporting, and performance management in order to ensure transparency in SOEs’ work.

Corporate governance in SOEs is characterised by certain peculiarities which make this issue different compared to policies and practices that can be found among other market participants: multiple targets, diluting responsibility for the results and double-agency relationship are just some of them. Combined with other organisational characteristics, these peculiarities are not in favour of management efficiency or flexibility, and coupled with the distortion of information that occurs in the long communication chain, the lack of understanding between the participants or some other reasons they also do not contribute to operating effectiveness.

In this paper, we shall focus on how to improve corporate governance in public companies in Serbia. The research that our analysis stems from included 15 public enterprises founded by the Republic of Serbia, and was conducted in the period from April to September 2016. We bring into focus the following questions:

What is the role of the state as the owner of the SOE? What is the position of the Board, what are its responsibilities and what are the benefits of having this body to supervise SOEs operations? In this paper, we argue why it would be necessary to establish a special ownership entity to which the state as the owner would delegate ownership rights, and which would become a central point of communication between the SEOs, on one hand, and the Government and its ministries, on the other, but also a body responsible for making other important decisions related to the SEO’s operations (licensing board members, continuous training in the field of corporate governance, controlling the Board, etc.).

How developed the internal control is and what should be done to improve its role and impact on decision making? The paper discusses the position that the internal control has in the SEOs, the method of organising these activities, its resources and the impact it has on improving the work of SOEs, and brings recommendations about what should be done for further development of internal control and its effectiveness.

The paper presents specific recommendations for improving corporate governance in SOEs in Serbia.

2. METHODOLOGY

We have investigated governance structures in the state-owned enterprises (SOEs) in Serbia. The population of SOEs in Serbia is 33 at the state level and more than 1,000
smaller ones at local levels. Our research encompassed only the former group and was conducted in the period from May to September 2016. Through desk research, we covered the entire population of enterprises founded by the state, while field research included 15 out of 33 companies. Field research was conducted by means of interviews, questionnaires, and focus groups discussions. Interviews were conducted with CEOs or their entitled representatives and were semi-structured in form. In order to understand the role of the board, being a body to which a principal assigned property rights, and board’s relations to managers we sent a questionnaire to all board members in all the companies included in the research (out of 75 board members in total, the response rate was 45.3%). In addition, three focus groups were formed comprising the managers of legal sectors, financial sectors and internal audit.

3. CHARACTERISTICS OF CORPORATE GOVERNANCE PRACTICE IN STATE-OWNED ENTERPRISES IN SERBIA

3.1. GENERAL CHARACTERISTICS

SOEs face some specific corporate governance challenges that differ from private sector companies, those being in particular: 1) dilution of performance responsibilities; and 2) dual-agency relationship. Diluting responsibility for performance comes due to the fact that responsibility includes a range of agents such as managers, supervisory boards (SB), ministries, governments, etc. These agents can use a SOE to achieve personal and short-term goals, and to the detriment of both efficiency and effectiveness, as well as of long-term goals. A dual-agency relationship is present because the managers of SOEs are agents of the Government, as the principal, and the government is an agent of citizens, as the principal, and the owner of the SOEs. Citizens, therefore, are not in direct interaction with SOE managers, they cannot analyse and monitor the performance of managers and SOEs, nor are they able to directly exercise their proprietary rights. Instead, control mechanisms are delegated to the Government and ministries, whereby in reality citizens cannot control their activities related to the work of SOEs. The only way that citizens can influence the SOEs’ work is indirect, by voting at the election.

3.2. BOARD-RELATED CHARACTERISTICS

Principles, rules and practices of board structuring. The principles, rules and practice of nominating and selecting candidates for membership of the SB of SOEs are inadequate. The Law prescribes that the Chairman and members of the Board of the SOEs are appointed by the Government, but the nomination procedure and the process of election (appointment) of the potential candidates are not included in the scope of the Law. As a consequence, the process of selecting members of the SB is not sufficiently regulated and is not sufficiently transparent for the public. The procedure
for the nomination of the President and the members of the SB and the selection procedures of the potential candidates is such so as to leave the door wide open to the impacts of politics, as well as to various other influences that have nothing to do with the work of SOEs and the public interest. A non-regulated and non-transparent process of selecting members of the SB cannot guarantee that the most competent and the most independent candidates will be elected for these positions.

**Board quality assurance criteria.** The key characteristics of SB members that secure preconditions for good corporate governance are competence and independence, and the current way of selecting board members is not sufficiently developed to ensure this.

*Ensuring competence.* Competence implies that a member of the SB possesses sufficient knowledge and experience that allow him/her to monitor the work of managers. It is not necessary for an SB member to hold competences to manage the operations of the enterprise on a day-to-day basis, as this is the responsibility of the management, but it is stipulated that members of the SB should be familiar with corporate governance or finance. However, the current regulation does not specify the process of how to test this knowledge: there are no specified procedures for testing the knowledge of the relevant fields (corporate governance, finance, law, etc.) that board member candidates possess, which results in an insufficient concentration of expertise in the SB. It is also stipulated that the members of the SB are obliged to undergo further professional development in the field of corporate governance, and that the Programme for Additional Professional Development should be determined by the Government (Law on Public Enterprises, 2016, Article 18). To the best of our knowledge at the time of this research, additional professional development of SB members has not been initialised, and after the selection of SB members, the programmes for their training in the relevant fields are not implemented. The law does not stipulate sanctions for members of the SB who do not undergo further professional development in the field of corporate governance.

*Ensuring independence.* According to the existing legislation, an independent member of the Board is defined as one who: 1) has not been engaged in auditing the financial statements of the company in the last five years; 2) is not a member of a political party; and 3) has not been appointed or elected, and is not employed or engaged on a different basis in the SOE or the subsidiary company founded by that SOE. These elements are necessary, but not sufficient to ensure genuine independence of a member. Currently, in certain SOEs, three out of five Board members are employed by key customers and suppliers. The selection of a member of the SB representative of employees has not been regulated in the best way. The law stipulates that the SB, managers and executives cannot influence the choice of representatives of employees in the SB, but it is not specified who should do this and in what way; it is up to the SOE to decide it in its Articles of Association. According to the field data, we noticed that
in some cases “employee representatives” in the Board were not always nominated or elected by the employees. Finally, the Law does not specify whether members of the SB who are not independent and the representatives of employees can be officials of political parties.

SCOPE, CAPACITY AND WORK DYNAMICS OF THE BOARD

Scope of work. The scope of the SB work is not such so as to ensure efficiency and the impact that the Board should have, according to good corporate governance practices. Among the foreseen responsibilities of the Board, some important activities that should be performed are not included, those being, but not limited to having the authority to employ, dismiss and reward managers. In such a situation, there is an asymmetry of the authority and responsibility of the Board, because it is responsible for the business and the results of the SOE while not being able to influence some important decisions regarding the business.

Capacities. Because of the problems explained above, the impression is that the Board capacities are not suitable for executing the assigned, let alone all the responsibilities that an SB should have. Capacity of the Board could be strengthened by setting up committees, such as the nomination, compensation, strategic planning, risk, and audit committee. Of all the committees relevant to the Board, the Law recognises only the Audit Committee, but the way this body is arranged seems to be insufficiently precise. It is stipulated that at least one member of the Committee must be an authorised auditor or possess adequate knowledge and work experience in the field of finance and accounting (Law on Public Enterprises, 2016, Article 55). Knowledge and work experience in the field of finance and accounting are not equivalent to the title of a certified auditor, and it is not stated how it is to be verified if a person possesses adequate knowledge and work experience in the field of finance and accounting. It is not explicitly stated that these persons cannot be selected among the employees of the company. The term of the members of the Committee, the reasons for and the manner of discharge, are not specified. The suggested frequency of reporting by the SB – at least once a year (Article 56) – is insufficient.

Work dynamics. Field data indicate that the dynamics of Board members convening varies immensely from one company to another, ranging from Board members communicating with the general manager of the company on a daily basis, to meeting only when necessary and when there is a critical number of questions that require making decisions.
BOARD MONITORING

Monitoring. The way the state as the owner maintains regular and effective communication with the members of the Board is not stated, nor the way the results of their work are to be monitored.

Discharge. The reasons and procedures for discharge of the members of the Board are not sufficiently precise. It is unclear to what the Law refers when specifying that a member is discharged when “it is decided that he/she does not act in the interest of a SOE due to inadequate behaviour or otherwise”; neither is it clear who makes this decision and how.

Compensations. The mode of controlling the Board’s performance and the associated compensation system for members of the SB and their possible discharge do not provide an adequate connection between rewards and penalties for the results. At present, the level of compensation for SB membership is often disproportionate to the responsibility of the SB members.

3.3. CONTROL-RELATED CHARACTERISTICS

Choosing a competent management to lead the company will not necessarily ensure that the goals of the company are achieved. Even the most competent managers can be undisciplined, which can lead to failures in the achievement of goals, but also to large-scale criminal actions, as well as to the failures of the entire businesses, as evidenced by numerous examples throughout history. In order to ensure a reasonable assurance about the achievement of the goals of the company and in order to prevent the occurrence of criminal activities, periodic checks of the performance of managers (and companies) by the supervisory board are not sufficient, and it is necessary to put in place policies and procedures which are carried out regularly and systematically and which are individually referred to as “controls”, and when combined – “the internal control system”. The ability of an enterprise to achieve its goals is actually jeopardised by the many risks that businesses face, and a good internal control system has risk management at its core. Risks need to be identified, evaluated, compiled and a risk management strategy needs to be designed as a part of the process of performing internal controls in everyday business.

Effective internal controls ensure that risks to business operations are identified at an early stage, and in relation to each of the three important aspects of financial discipline: 1) the resources of the company are used with the aim of the best achievement of the company’s goals; 2) the information in the financial statements will be presented truthfully and objectively; and 3) the company’s business operations are aligned with the applicable legal regulations.
An effective internal control system allows managers to monitor employees, which will prevent irregularities in work and possible criminal actions by employees (e.g. thefts), while the supervisory board monitors management, which facilitates the achievement of company goals (and the related performance measurement, determining compensation for managers and possible replacements of managers) and pre-empts any criminal actions by the managers (e.g. theft and misleading financial reporting).

While the management team is responsible for the establishment, development, maintenance and the effective functioning of the internal control system, supervision over this system is carried out by the Supervisory Board, primarily through the function of internal audit. Additional supervision is provided through external audits: checks of the effectiveness of internal audit through evaluation of its work, opinions of external auditors on the internal control system, and, in case of state ownership, the opinion of the state auditor.

The conclusion obtained through empirical research is that due to poor regulation and even worse implementation, the state of IC in SOE is unsustainable. The regulation is poor because the regulations that apply to SOEs are the same as those applicable to public schools, ministries, public hospitals and other state budget beneficiaries. Formally, most of these companies should have an IC system, but essentially, they do not.

The fact is that some SOEs did not make any improvements whatsoever in this respect, while others did very little. It is also noticeable that companies have become more serious about this issue only after the state audit institution expressed reservations on the regularity of their doing business. The implementation and development of the IC are obscured by the inadequate process, and the idea of IC is diluted.

Awareness of the benefits of the internal control system is not high enough, nor is the perception of responsibility due to the lack of activity or delay in the development of these: there are no legal sanctions, everything is left up to the good will of the company, and companies do not perceive the benefits of the system, do not feel responsible for the delay, and complain about insufficient support from the state. CEOs generally perceive that the only role of the internal control system is to control them additionally and to reduce their flexibility in managing the companies, and they do not see that these systems can help them reduce risks and responsibility for possible irregularities and failures in business.

In most of the SOEs there are significant delays in the initial activities of introducing ICs, most often because the system has not been set up in a planned way in terms of establishing work groups for the introduction and development of ICs, and in terms of appointment of the IC manager, i.e. in terms of absence of the Plan for the Establishment and Development of IC. Only one third of the SOEs has mapped its
business processes. In somewhat over than one third of the enterprises, the activities of listing and describing business processes and the establishment of internal control have not been initiated yet, taking into account the most significant risks. Observed individually, risk management is the weakest component of internal controls, and in particular, risk assessment, the establishment of a register of risks and the adoption of a risk management strategy. Inadequate risk management could have a negative impact on other components of internal control, in particular on the selection and implementation of the most effective control activities and monitoring and evaluation of internal controls, which is why this component needs to be given special attention.

**INTERNAL AUDIT DETAILS**

Although it has been more than five years, staff capacities and knowledge in the field of IC in SOEs have remained modest. The situation is similar with internal audit (IA). In some companies, there is no IA, others have met the legal requirement and have one internal auditor, while in the remaining ones (less than ½ enterprises), where there are more internal auditors, this number is still insufficient. A relatively small number of trainees attend IA training. Overall, the state of the IA in the SOEs is not at a level that can ensure adequate performance of the activities that this function should provide.

A relatively small number of audits were planned and carried out, and a relatively small number of recommendations were made. There were problems regarding the acceptance and implementation of recommendations made by internal auditors. Planning of audits, especially strategic planning, is not satisfactory due to the elaborated problems related to risk assessment. External assessment of IA work has not been performed. Over one half of the companies have no audit committees established.

**4. TOWARDS IMPROVEMENTS**

**4.1. RECOMMENDATIONS FOR GENERAL IMPROVEMENTS**

Research into the level of corporate governance in public enterprises founded by the Republic of Serbia has shown that corporate governance in public enterprises is carried out only in some of its components, formally rather than substantially, and to a different extent in different enterprises. All things considered, the level of corporate governance in public enterprises founded by the Republic of Serbia is unsatisfactory given the importance of the process, the proclaimed goals of the state, the time that has elapsed since its initiation and the institutional framework that has been set up. The consequence is that the management of public enterprises is not efficient, responsible and transparent to the extent that it could and should be. However, what
hinders the development and improvement of the level of corporate governance in public companies in Serbia the most is the lack of awareness of the importance of this process, knowledge of the topic, and the political willingness to implement this process since it could threaten the interests of certain stakeholders.

In order to ensure more effective corporate governance and preserve their ownership rights, different countries apply different models. Generally, three models (or systems) can be recognised: centralised, decentralised and a combination of the two – a dual model. We believe that there is a justified need for the creation of a centralised “ownership entity” (hereinafter referred to as: the COE) which would be responsible for the implementation of the state's ownership rights in the SOEs, for employing and dismissing SB members, licensing of candidates for SB members (including the maintenance of a licensed-person database) and supporting the SB in the strategic direction of the SOE. This body should also play a central role in maintaining regular and effective communication with the SOE, bearing in mind that more ministries and other state bodies are reflected in the work of these companies, and that such a centralised communication unit can also perform the role of shared services in providing more efficient communication with various ministries and other state bodies.

COE should further enable:

- Increase in the influence and professional level of supervisory boards, and improvement in the quality and motivation of committee members. The now fragmented or non-existent activities in this extremely important domain would be combined and taken over by the COE. In the Republic of Serbia, the existing regulations provide only for appointments by the Government, which the Government could continue doing, but the process of nominating and selecting members is not regulated. This serious problem, which leaves plenty of room for appointing unskilled and politically appropriate members of the supervisory boards, could be solved in two ways: by a systematic and an ad hoc approach. In the former case, COE verifies the qualifications and licenses candidates for supervisory boards and maintains the database used by the Government to nominate and elect the members. In the latter case, which is a poorer solution, there are no licenses and databases for these persons, and the COE carries out the selection (verifying competencies and testing candidates) for each vacant post. Regardless of the preferred method for selecting candidates, after they have been selected, COE provides the necessary training for the appointed board members in the areas important for corporate governance. Motivation of the members of the Supervisory Boards increases with the formulation and consistent implementation of the rewarding policy in accordance with their performance. It is also necessary for COE to ensure that committee members are replaced not because of political decisions, but only in case of strictly defined reasons. Professional, competent and independent com-
mittees reduce the political influence on the managers (management) of SOEs and the SOEs’ way of doing business.

- Regular communication with supervisory boards in enterprises. The COE should provide and develop regular communication with the members of the Supervisory Boards, and in the event of particularly poor performance and other problems concerning the business of individual companies, COE representatives should attend committee sessions, coupled with the efforts of COE to provide ongoing active consulting in solving the problem.

- Impartial and professional measurement, monitoring and analysis of the performance of the Supervisory Boards of SOEs, SOEs’ managers and the SOEs as entities in their own right. COE should develop an appropriate performance measurement system and make sure that it is implemented consistently. In addition to individuals in COE with excellent expertise in this field, COE can also engage external independent evaluators to perform these tasks. Expertise increases over time because they evaluate the performance of a large number of companies and because of the continuity of the rating activities. Unlike the situation with a decentralised model, where line ministries can be biased in assessing the performance of “their” businesses, a consistent COE assessment approach ensures impartial assessment of the performance of all SOEs. Continuous assessment and performance analysis by COE provide the opportunity to give companies advice on capital structure, investment policy, dividend policy, etc., which the line ministries most often cannot do. In addition, the COE must consistently sanction directors and members of the supervisory boards who do not work on developing internal control and internal audit.

4.2. BOARD-RELATED IMPROVEMENTS

Principles, rules and practices of board structuring. It is necessary to regulate the procedure for nominating and selecting potential candidates for membership in the SB (as explained above). We believe that the issues of nomination and election, as well as the discharge of SB members in the SOEs should be within the competence of the body that would be in charge of the enforcement of state property rights, as described above. It is recommended that this body be authorised to implement the process of licensing SB member candidates, to create and update a database of licensed persons for SB members, to establish committees and to conduct the selection process.

It is necessary for the COE to adopt a Programme for Additional Professional Training of the members of the SB as soon as possible. Questions of additional professional development of SB members in the field of corporate governance should be dealt with by the COE.

It is also necessary to specify that no member of the SB may be a political party official. In addition to the independence in relation to political parties, ensuring the
independence of the SB and individual members should also include autonomy in relation to the management and in relation to key customers, suppliers and creditors of companies. The position of an independent member needs to be further elaborated by emphasising the requirements that provide essential independence (e.g. the definition in the Companies Act, 2015, Article 392), and the position of employee representatives in such a way so as to ensure independence in relation to the management. For the remaining members of the SB, it is necessary to exclude the possibility that these will be representatives of the key customers, suppliers and creditors of a particular SOE.

**Scope, capacity and dynamics of Board’s work.** In order to perform their role, SBs should genuinely and actively: 1) formulate, monitor and analyse a corporate strategy, not only adopt it formally, i.e. adopt a proposal submitted to them; 2) determine appropriate performance measurement systems, evaluate and monitor management and develop an effective compensation plan for senior management, which is related to their performance; 3) monitor the processes of communication and information exchange; 4) establish a self-evaluation practice. However, the key function of the SB in a SOE should be the appointment and dismissal of the SOEs managers. Without this authorisation, it is difficult for SBs of SOEs to fully perform their monitoring functions and to feel responsible for SOE’s performance. Their obligation to evaluate and monitor the performance of managers also implies that a SB of SOE should have a decisive influence when it comes to managers’ compensations. To this end, SB of SOEs need to establish an appropriate system of performance measurement and linking it with compensations.

It would be desirable to empower SBs through specialised committees. These are, in the first place, the Compensation Committee and the Nomination Committee. The Nomination Committee should strengthen the SB in terms of selecting the managers, while the Compensation Committee would perform this role in monitoring the results of the work and rewarding the managers. Regarding the Audit Committee, due to a relatively small number of certified auditors in Serbia, the limitations they are exposed to in terms of accepting these functions, and the unfavourable relationship between responsibility and potential fees for performing this function, it is unrealistic to expect that these positions will be filled in by certified auditors. Instead, it is necessary to specify who checks the knowledge of a candidate for a member of the Committee in the field of finance and accounting and how this is to be done. It is necessary to exclude the possibility of a member of the Audit Committee being a person employed by the SOE, to regulate the issue of the duration of the term of these persons, the reasons for and the manner of their dismissal.

It is necessary to find the proper measure in the dynamics of SB meetings, because highly frequent SB meetings could point to management problems, just as few and seldom meetings of SB members can. Quite frequent meetings may indicate that the
management bodies in the company have not properly understood their roles and responsibilities, so that the SB can nondeliberately interfere with the issues that are not in its domain. On the other hand, the insufficiently frequent meetings of SB members could lead to disorder in their work, insufficient knowledge of the members about the problems that the company faces, delays in making important decisions and blocking the company in accomplishing important tasks.

**BOARD MONITORING**

We believe that the issues of monitoring the work of SB members in the SOE should be within the competence of the body that will be in charge of the enforcement of state ownership rights, as described above. The systematic process of evaluation is a necessary tool for strengthening the professionalism of the SB in the SOE, since it emphasises the responsibilities and duties of the SB and its members. It is a useful incentive for individual members of the SB to devote enough time and effort to carry out their duties as members of the SB. Evaluation should examine both the performance and efficiency of the SB as a whole, as well as the contributions of individual members of the SB. Also, the SB of SOE should be obliged to conduct an annual evaluation of its own work (self-evaluation).

It is necessary to prescribe the criteria for defining compensations with the aim of relating the compensation level to the performance of the SOE. The Government should provide remuneration for SB members that promote long-term interests of SOE, and attracts and encourages qualified experts to join the SOE's board. Also, it is essential to specify the reasons for the dismissal, who makes this decision and who dismisses the Board members, and how this is to be done. We believe that the issues of dismissal of the members of the SB in the SOE should fall within the competence of the COE.

**4.3 RECOMMENDATIONS FOR CONTROL-RELATED IMPROVEMENTS**

Financial discipline in the SOE should be encouraged, not by instant solutions, but on a systematic basis. Thus, for example, it cannot be expected that development of internal control systems will be encouraged by reactions to the negative opinions of the State auditing institution, bearing in mind the capacity of this institution and the usual dynamics and coverage of its work.

IC does not have to be built from scratch, but the existing control infrastructure must be re-examined; the development and maintenance of effective internal control is a continuous process. Understanding the essence of control and integrating internal control into daily operations is an ongoing process that companies are adapting to. From this perspective, it is a good idea – and a welcome announcement – that the regulators are realising that, in order for companies to take the right approach, some
SOEs need more time to come round than others. Strengthening the control environment means highlighting corporate culture and ethics, which is a time-consuming activity. The focus is not on the annual self-assessment reports (because it is form over substance), but on evaluation by the risk-based internal audit function.

The legislator must be aware of the fact that the business of SOE is significantly different from the operations of other users of public funds, in terms of greater exposure to inherent risks, more difficult compliance with laws and regulations, weaker monitoring of the work of management, more complex accounting policies and the practice of financial reporting. Thus, the IC (and IA) systems in the SOEs would need to be significantly more developed and more effective. Therefore, a new and more stringent legal regulation should be developed for the SOEs. Knowing the current importance of the SOEs in Serbian economy, there is no doubt that a regulation similar to the one applied to public companies in the US in accordance with SOX would be desirable. Therefore, a kind of Serbian SOX (S-SOX) should be adopted. At the very least, these regulations should provide: 1) legislation specifying comprehensive requirements for the mandatory development of internal control systems; 2) five key elements of IC to be broadly in line with the COSO framework; and 3) external independent assurance of the effectiveness of the IC system.

Legislation must standardise a planned approach (which should include detailed checks of the so-far unplanned elements of the IC) for the development of ICs and contain clear deadlines for completing the process of introduction, including measures for the adoption of action plans, the establishment of working groups and the appointment of managers for IC, and adequate sanctions for non-implementation of these activities. In the current circumstances, the sense of responsibility could be increased only with clear deadlines and severe sanctions. IA resting on one internal auditor in enterprises with less than 250 employees most often means that the legal requirement is met, but IA capacities are nowhere near enough for true and effective IA. We suggest, therefore, to review the currently only criterion for the compulsory establishment of an independent unit for IA – 250 employees, and that the minimum number of internal auditors is determined taking into account at least the amount of funds available, as well, then the share of budgetary resources in total revenues and the activity and complexity of the process in the SOEs, i.e. business risks of each SOE.

**Awareness and capacities.** It is necessary to raise awareness of the benefits of the IC system, which can be achieved by additional trainings of directors, managers and members of the working groups of the COE. All SOE directors should go through a sufficiently detailed IC training. It is necessary to provide more explicit and timely help from COE. For these purposes, it is important to build capacities in the COEs to offer appropriate training. In addition, SOEs should be allowed to engage consultants who will assist them in identifying and assessing risks, establishing a risk register and

**** As per the current regulations.
defining a risk management strategy, mapping business processes and embedding internal controls into them, as well as to budget expenditures for these consulting works. Since the experience of consulting companies in this area is different, it would be helpful for a COE to prepare a short list of consultants with a sufficient level of expertise.

**Control environment.** The effectiveness of internal control directly depends on how individuals in charge of the design, execution and monitoring of control transfer and manifest their integrity and ethical values. The effectiveness of controls cannot be greater than the integrity and ethical values of individuals. In this regard, the director and managers should develop and introduce codes of conduct, as well as anti-fraud programmes, thus refraining employees from unfair, illegal and unethical actions, but also instructing them to act in the event that they become aware of such actions. In addition, a personal example is very important. The effectiveness of the control environment is significantly influenced by the employment management policy and practice. Managers need to employ individuals who possess the skills and knowledge, education and experience that are important to them. For example, the practice of employing the most qualified individuals, with an emphasis on education, previous experience and proven integrity and ethical behaviour illustrates the organisation’s commitment to engage competent and reliable people. Competent and reliable people can carry out their activities without control, whereas, on the other hand, numerous controls will not prevent problems if the employees are incompetent and unfair. Apart from attracting high-quality individuals, the success of the company is dictated by the ability of these individuals to continually improve skills and knowledge they need for doing their job. Therefore, the issues of organisation of trainings, seminars, grading, promotion and rewarding of employees are also important. It is necessary to insist on the development of personnel policies, including the development of criteria for determining its efficiency and consistent monitoring of personnel policies. It is also necessary to encourage planning and organisation of external and internal trainings by the IC.

**Control activities.** Successful development of control activities implies their planned development based on mapping business processes and identifying and assessing risks in each of them. Control activities should become part of the job description of each employee. Therefore, as previously suggested, it is necessary to accelerate and complete activities of mapping business processes and risk management, which would be the basis for: 1) control activities that have been developed previously in a non-systematic manner; 2) developing new, missing control activities, in accordance with the most important risks; 3) including internal controls in operating manuals; 4) making work procedures and operating instructions for work accessible and binding to the employees; 5) defining procedures for monitoring internal controls by executives. Progress in this area will depend to a great extent on the progress in the field of work of internal audit, which should provide indispensable support in reviewing the
existing control activities and help designing improved and new control activities in the processes.

**Internal audit and monitoring.** It is necessary to have more internal auditors in SOEs. This would disable the practice of establishing a pro forma IA with the aim to simply meet legal requirements. As pointed out above, since SOEs operations are significantly different from the performance of other beneficiaries of public funds, at least in terms of their greater exposure to inherent risks, it is necessary to adopt a new legislation for the IA in the SOEs. Consideration should also be given to the possibility of allowing some companies, in exceptional situations, to jointly organise an IA or to engage an IA by outsourcing it. It is necessary to remove the ban on new employment in public companies for the position of an internal auditor, but also to prevent the outflow of employees from the IA to the market. To this end, bearing in mind the complexity of the jobs they perform and the level of competitive earnings in these private sector jobs, consideration should be given to the possibilities of rewarding the IA better. SB members must be trained to monitor internal controls, set up the Audit Committee, and provide effective communication of internal audit with the Audit Committee. The internal control system in each SOE should be subject to a mandatory external audit of its effectiveness by an independent auditor.

### 5. CONCLUSION

The effectiveness of corporate governance is largely predetermined by the quality of the structure of its board being the supreme body of corporate governance (number of members, members’ competence, the existence of committees, independent members, etc.), as well as by the system of rewarding and dismissing board members. Given the size of this sector in comparison to the entire national economy and its overall importance in the GDP structure, employment and national wealth held by these companies, it is extremely important for Serbia to ensure that SOEs are governed by strong and competent bodies that can act in the best interests of the companies and effectively monitor the management without excessive political interference. A professional, responsible, competitive and trained board could initiate major changes in the work of SOEs. Believing that it is important that the supervisory boards’ important roles be placed in their hands, it is necessary to regulate differently the important elements of the selection, compensation and dismissal of managers. In this paper, we advocate the centralisation of the exercise of ownership rights by the state through the establishment of a centralised ownership entity – COE.

When it comes to the quality of the management structure, the research has shown that the main barriers to improving corporate governance are in the domain of inadequate competence of the board members, the process of election of members for the position in the board, as well as the election procedure of the managers of SOEs. Non-existence of continuous education is notably hindering board competencies and
potentials for contributing to continuous organisational development and growth. The process of selecting members of the supervisory boards of SOEs is now unregulated and non-transparent, and as such does not provide for the selection of competent and independent members. Boards have no authority to elect, reward, and dismiss the managers of SOEs, and it is what they would need to have in order to fulfil their role. Instead, managers of SOEs are elected by the Government Commission, whose structure is inadequate and that operates on the basis of insufficiently clear and reliable criteria. Placing the management election process into the boards’ hands and grounding it on clear and reliable criteria could significantly improve structural features of corporate governance. It is essential to organise continuous education of members of the supervisory boards on the topics of management, finance and corporate governance. It is also necessary to provide for sanctions that would include both the loss of license rights and the participation in the work of the board if the member of the board fails to undergo the process of continuous education.

Financial discipline in public enterprises should be strengthened not by ad hoc solutions, but on a systematic basis – by introducing, developing and continually strengthening the system of internal control and internal audit. Currently, organisation of internal control and internal audit in SOEs has a number of shortcomings: in most SOEs there are significant delays with initial activities in introducing the internal control system, most often because the system has not been established in a planned manner and because business processes mapping and establishment of internal controls are delayed. Observed individually, risk management is the weakest component of internal controls, and in particular, risk assessment, the establishment of a register of risks and the adoption of a risk management strategy.

Awareness of the benefits of the internal control system and internal audit is not high enough, nor is the perception of responsibility due to the lack of activity or delay in the development of financial management and control. Internal audit has not yet been normatively established in all enterprises. In one half of the SOEs an independent internal audit unit has not been established, and these activities are entrusted to one position of internal auditor, the total number of employees in internal audit is relatively small, as is the number of attendants of trainings for obtaining an internal auditor’s license. Planning of audits, especially strategic, is not satisfactory as the number of planned and actualised audits is small, and relatively few recommendations are made. Problems related to the acceptance and implementation of the recommendations made by the internal auditors are notable, while external evaluation of the work of the internal audit has not been carried out, and over one half of the SOEs has not established the Audit Committee. Improvements in the field of the internal control system and internal audit can be achieved only by parallel actions in several directions: by tightening the legislation (by special, separate regulations in relation to those applied to other users of public funds), with a sharp definition of sanctions for non-performance of legal obligations and more precisely defining the deadlines for
the establishment and development of the internal control system and the normative establishment of the internal audit department, highlighting the position in the organisation and the authority of the Audit Committee that can be responsible only for appointing and diluting the internal audit manager, strengthening staffing potentials and the training of employees, and constant pressure on the management of public companies towards developing awareness of the need for internal controls.

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THE INFLUENCE OF BUDGETING FEATURES ON SUBORDINATE MANAGERS’ PROPENSITY TO CREATE BUDGETARY SLACK

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Abstract: Traditional budgeting is the subject of considerable debate and criticism. A frequent criticism is that such a budgeting system encourages the creation of budgetary slack. Budgetary slack is the result of deliberately setting budgetary goals below the best possible estimations. The reasons for their creation can differ. The subject of this paper is budgetary slack that subordinate managers create without the knowledge and consent of their superiors. They do this in order to make budgeted targets more easily achievable and to obtain as many resources as possible for their organizational unit, and all this with the aim of maximizing self-interest, i.e., getting bonuses and building a good reputation. Such dysfunctional behaviour of subordinate managers has a substantial negative impact on the quality and sustainability of the budgeting process. In this paper we explore the influence of budgeting features on the propensity of subordinate managers to put their own interests before those of the company through the creation of budgetary slack. In this context we consider how budgetary participation, information asymmetry, budget emphasis in management performance evaluation and rewarding, and other budgeting features affect whether subordinate managers engage in this form of budgetary game.

Keywords: budgetary slack, budgeting features, participative budgeting, information asymmetry, management performance appraisal and reward system

JEL: M41, M21
Field: Business

1. INTRODUCTION

Budgeting, the process of translating goals, strategies, and non-financial plans into quantitative projections of the financial effects of individual activities, integrated in the form of projected primary financial statements, is a management instrument often used by companies. For many years its use has been the subject of numerous debates in management accounting literature. Some consider that the budget is an irreplaceable part of the planning and control process, presuming it is used correctly, while others consider that budgeting is obsolete and unnecessary.

Budget supporters point out that it can provide numerous benefits in various areas. It presents a basis for management control. The budgeting process establishes a basis for evaluating managers’ performance, coordinating activities at different management levels and in different functional areas, and allocating resources among different organizational units. Budgeting also implies a transfer of information in all directions within the organization. It connects strategies with concrete activities to be

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realized, thus operationalizing the company’s goals. The budget is an instrument for implementing strategy, monitoring the efficiency of its use, and for promptly warning of problems during its implementation. Its creation provides a quality information basis for efficient management of the company’s profit, cash flow, and financial position. By pointing out the financial consequences of individual activities, the budget significantly decreases uncertainty and risk and facilitates the short-term management of the company.

Critics of budgeting claim that it is a long-lasting and expensive process that is not worth the time and money involved. They point out that budgeting is a bureaucratic process which emphasizes vertical hierarchy and control and intensifies barriers between organizational units instead of encouraging inter-functional cooperation. Critics state that the budget is often unconnected to strategy and is based on unsustainable presumptions and speculations. In conditions of permanent change, companies are expected to be flexible and adaptive, but budgets limit the possibility of a quick response. Adopted budgetary goals are quickly superseded and are not updated often enough. Therefore, measuring performance and rewarding managers based on such budgets becomes inappropriate and counterproductive. In addition, the conception of a budget encourages various budgetary games that set budgetary goals lower than can objectively be achieved, present achieved results inaccurately, and manipulate the desired results, all with the objective of obtaining a positive performance evaluation and the related compensation.

These criticisms refer primarily to traditional budgeting systems. The accepted attitude is that traditional budgeting is imperfect and to a great extent is adjusted to relatively stable business conditions. Part of the professional and academic community considers that the demonstrated deficiencies of the budget result from the way it is used, and therefore existing budgetary practice should be improved. Another part of the community believes that the budgeting process is essentially wrong and no improvements will give the desired result, so the process should be completely abandoned and efforts focused on searching for a new management instrument capable of meeting management’s requirements.

It is interesting that although most companies express discontent, they continue to use budgeting and have no intention of changing. Budgeting is too important to be easily abandoned; however, its disadvantages should not be ignored but should be subjected to careful analysis in order to establish how serious they are and if they can be eliminated. Therefore, the subject of analysis in this paper is one of the criticisms of the budgeting system: that traditional budgeting induces the creation of budgetary slack. In certain circumstances the creation of budgetary slack is justified, while in others it is a budgetary game, i.e., dysfunctional behaviour which diminishes the effectiveness of the budgeting process. Budgetary slack that results from the opportunistic behaviour of subordinate managers is present to a considerable extent in the
budgets of numerous companies and seriously threatens the quality and sustainability of the budgeting process. In order to identify possibilities for eliminating such behaviour from the budgeting process, we shall analyse the budgeting features which allow managers to create budgetary slack. We shall show which budgeting features enable the creation of budgetary slack, which facilitate it, and which features encourage or discourage it.

2. REASONS FOR THE CREATION OF BUDGETARY SLACK

An effective and efficient planning and control process depends on the existence of reliable budgetary forecasts. Unfortunately, research shows that budgetary forecasts are rarely reliable and precise (Libby 2003). This could be the consequence of operating in an uncertain environment, managers’ inability to precisely project the relationship between inputs and outputs when realizing complex tasks, or budget proposals and the final budget being made to deliberately deviate from the best possible forecast.

Setting budgetary goals at the level of the best possible forecast is not always in the interest of management and the organization. The level at which it is desirable to set budgetary goals depends on the purpose of the budget. If the budget is to be used to motivate employees, evaluate their performance, and reward them, then budgetary goals should be set at a higher level than the best possible forecasts but in a way that such goals are achievable. If the budget is to be used for planning, communications, coordinating activities, and allocating resources, budgetary goals should correspond to the best possible forecast (Schoute and Wiersma 2011). Therefore, companies that use the budget for various purposes should prepare several budgets. This is not common practice, because the existence of a budget used for planning-control purposes would probably annul the effects of a budget prepared for the purpose of motivating employees. Usually, companies prepare one budget, making a compromise about the budgetary goals depending on the priority for using it.

Budgetary goals are often set below the level of the best possible forecast. Such deviations indicate the creation of budgetary slack. Creation of budgetary slack refers to the deliberate setting of budgetary goals at a lower level by underestimating revenues and overestimating expenses, i.e., underestimating the organizational units’ ability to achieve a certain level of performance.

There are various motives for creating budgetary slack. In this context there exist two different situations. In the first, top management is aware of the existence of budgetary slack and approves its retention in the final budget in order to provide necessary flexibility and to achieve, at the same time, budgetary and other goals which are equally important for the company. In the second, subordinate managers, without the knowledge and consent of their superiors, abuse their superior information position to include budgetary slack in their budget proposals in order to facilitate
realization of budgetary goals and, by overestimating costs, acquire more resources for their organizational unit, all with the goal of maximizing their self-interest. In the first case, creation of budgetary slack is a valid organizational need, while in the second it constitutes dysfunctional behaviour by budget participants.

Top management will allow the creation of budgetary slack when is necessary to encourage employees to realize both financial and non-financial goals. This is not a case of top management preferring to set budgetary goals at a lower level so that they can be easily achieved, but of top management compromising and, through the creation of slack, achieving both financial and non-financial goals under difficult conditions (Davila and Wouters 2005). It is not surprising that organizational units and companies that apply differentiation strategy often have slack in their budgets. Differentiation strategy is based on innovativeness and continuous utilization of market opportunities. Its realization requires flexibility, which is restrained by rigid budgets but can be overcome by creating slack. Regarding the amount of budgetary slack, top management is more tolerant towards organizational units that performed satisfactorily in previous periods (Van der Stede 2001). Budgetary slack eliminates pressure resulting from the fear of losing bonuses due to unfulfilled budgetary goals. Free from such pressure, managers can focus on aspects of business other than the financial, and on the company’s long-term rather than short-term goals (Van der Stede 2000).

Top management should also be tolerant of budgetary slack when the company or its organizational units are operating in conditions of uncertainty, when it is extremely difficult to forecast the amount of resources necessary to realize planned goals. In this situation, subordinate managers, via their budget proposals, request larger resources from top management and use budgetary slack as a hedge against uncertainty. The slack provides them a certain level of flexibility when responding to unpredictable circumstances, and thus they absorb shocks. In this case, the creation of budgetary slack does not lead to a dysfunctional budgetary process. On the contrary, it can improve the performance of organizational units and of the organization as a whole (Dunk 1995). Top management should be ready to retain such slack in the final budget as long as it is as low as possible and its presence in the budget is not in opposition to other organizational goals.

When a budget is being used to evaluate and reward managers it is difficult to induce them to maximize their performance and truthfully reveal their performance expectations at one and the same time. Using top management’s limited familiarity with operations and the profit potential of organizational units, subordinate managers can, unobserved, underestimate the performance of the organizational units they managed by them. This is usually done by estimating sales volume at a level below the best possible assessment, by not including efficiency improvements in the projection of manufacturing costs, and by overestimating sales, general and administrative costs that are difficult to connect with any input. Thus, budgetary goals can be easily
accomplished and subordinate managers can keep within budget, with the aim of furthering their personal interests and getting bonuses, promotion, and a reputation as a good manager.

The presence of budgetary slack that is invisible to top management puts in question the effectiveness of the total budgeting process by preventing the determination of the true profit potential of organizational units, and thus decreasing the quality of planning, control, activity coordination, and allocation of resources. Such slack lowers the company’s profitability because its presence in the budget means that the organization does not fully exploit market opportunities and allocates resources sub-optimally, thus failing to maximise returns on invested assets. Also, budgetary slack results in managers being paid a higher level of compensation than corresponds to the invested effort. Thanks to budgetary slack, the motivational role of the budget is lost.

Setting budgetary goals below the level of the best possible forecast can have both good and bad aspects. Insisting on the elimination of overall budgetary slack without considering the reasons for its creation is counterproductive. The role of budgetary slack in providing organizational units with flexibility in conditions of uncertainty and in resolving conflicting goals should not be neglected. The problem is that budgeting features enable subordinate managers to use their involvement in the budgeting process for personal gain, to the detriment of organizational interests. Top management, unaware of the presence of slack in submitted budget proposals, makes decisions that are not in the best interest of the company. This can cause enormous damage in terms of budgeting quality and sustainability in the organization and the realization of desired financial performance. In order to ensure an effective budgeting process, this dysfunctional behaviour has to be sanctioned and eliminated.

3. BUDGETING FEATURES WHICH ENABLE AND FACILITATE THE CREATION OF BUDGETARY SLACK

Abandonment of top-down budgeting, where top management imposes goals and tasks and makes subordinate managers and other employees responsible only for their realization, and the involvement of subordinate managers in the budgeting process create preconditions for the creation of budgetary slack without the knowledge and consent of top management. Involvement of subordinate managers in the budgeting process could be done through bottom-up budgeting or, which is more often, through participative budgeting. Bottom-up budgeting means that each subordinate manager prepares the budget for their own area of responsibility and that the master budget presents the sum of the projected achievement of the organizational units. This approach is characterized by lower-level management having a lot of freedom in decision-making and poor cross-coordination and therefore it is rarely used (Malinić et al. 2012).
Participative budgeting implies that at the beginning of the budgeting process the top management provides basic guidelines and familiarizes all budget participants with the owner's and corporate management's expectations as to the general goals and selected strategies and with the general economic forecast and possibilities and limitations resulting from economic policy. Subordinate managers develop initial budget proposals for their organizational units based on these guidelines, information on supply and demand, customers' expectations regarding the quality, design, and functionality of products and services, production capacity, problems in raw materials supply, and so on. In the next stage the initial budgets of all organizational units are coordinated at higher levels in the hierarchy until they finally merge in the form of a master budget.

The impact of participative budgeting on the creation of budgetary slack is analysed most often because it is the method most often used. This impact is reflected in the fact that subordinate managers can deliberately underestimate the capability of organizational units and set budgetary goals below the best possible forecast. If they are involved in adjusting different organizational units' budget proposals they can use their position to ensure that their budget proposals are approved and thus maintain the integrated budgetary slack which maximizes their personal interests, without disclosing the actual motives behind the fight for their own budget proposals.

Participative budgeting gives subordinate managers an opportunity to influence budgetary goals and they can abuse that opportunity. Their involvement in the budgeting process enables creation of budgetary slack. If they were not involved in this process they would not have the opportunity to create it. Thus it seems that the issue of the creation of budgetary slack could be simply solved by excluding subordinate managers from this process and returning to top-down budgeting. However, the problem is more complex. Companies choose participative budgeting because it brings numerous benefits in terms of higher employee motivation, employee commitment to goals which they have helped to formulate, higher organizational commitment, strengthening of trust between managers from different managerial levels, giving all budget participants a sense of importance and worth, etc. However, the basic reason subordinate managers are involved in the budgeting process is the existence of information asymmetry.

Information asymmetry in the budgeting process refers to the unequal information position of managers at different managerial levels (Drury 2012). In large companies all the information needed for the preparation of reliable budgets is spread throughout the whole company and no one person has a monopoly over it, so that information exchange within the company is key to the success of the budgeting process (Malinić 2011a). Subordinate managers usually have information on factors that affect the performance level of organizational units and which are not available to top management. Through their involvement in the budgeting process top management
tries to get possession of this information in order to decrease information asymmetry and to put the obtained information in the service of the company’s goals. Information asymmetry could mean that superiors have more information than subordinate managers. However, when we consider information asymmetry in the context of the creation of budgetary slack we are dealing with a situation where subordinate managers have information which the top management does not.

When the responsibility for preparation of budgetary forecasts is delegated to subordinate managers, they can always integrate slack in their budget proposals. This does not mean that this slack will be kept in the final budget. If the budgeting is taking place in conditions of equal information distribution between lower and top management, top management will easily detect budgetary slack and can correct the budget proposals to eliminate the slack. In real conditions, information symmetry rarely emerges. Therefore, the debate is most often about lower or higher levels of information asymmetry (Lau and Eggleton 2003).

Budgetary slack can only be unobserved and integrated into budgetary forecasts when subordinate managers occupy a superior information position in relation to their superiors. Subordinate managers are aware that in certain circumstances they have a superior information position. In such conditions they know that they can easily convince top management that their revenues, costs, and results projections are real, even if they are not, and can use these circumstances to create budgetary slack and realize personal interests. Thus, top management can never be sure if subordinate managers are using all the information they have to achieve the company’s interests or if they are using some of the information to achieve personal interests, to the detriment of the company. Taking all this into account, it can be concluded that participative budgeting enables and information asymmetry facilitates the creation of budgetary slack. There remains the question of whether subordinate managers will use the opportunity offered by participative budgeting and information asymmetry.

Although the use of participative budgeting in conditions of information asymmetry bears the risk that the final budget will have unwanted budgetary slack, top-down budgeting could be even more harmful. Creation of the budget by top managers with inferior information could result in defining goals that, unintentionally, depart significantly from achievable goals in both downward and upward directions. This means that some budgets could contain slack unintentionally created by top management, while other budgets could contain goals that are difficult or impossible to achieve. In both cases, the damage is obvious (Malinić 2011a). It seems that even though participative budgeting enables the creation of budgetary slack, it remains the best way to make a master budget.
Agency theory posits that agents will always behave in a way that reflects their personal interests, regardless of whether such behaviour complies with the interests of the organization, i.e., the principal. Applied to budgeting, subordinate managers (agents) will always use their superior information position to set budgetary goals below the level of the best possible forecast in order to make the achievement of defined goals easier. They will do this by hiding information from their superiors (principals) or presenting it wrongly (Maiga and Jacobs 2007a). They act this way because they believe that in the eyes of top management their performance will look better if conservative assessments are exceeded than if aggressive assessments are not fulfilled (Kren 2003), thus reflecting positively on their reputation and offering the possibility of promotion. Another reason for such behaviour is that companies often link the assessment of management performance and the reward system to the achievement of budgetary goals. Setting budgetary goals below the level of the best possible forecasts increases the possibility of achieving budgetary goals and, accordingly, acquiring the related rewards.

Companies often use traditional budget-based compensation schemes, in which managers receive a fixed salary for performance up to budget standard and bonuses when budgetary goals are exceeded. Usually the value of the bonus is proportional to the difference between the forecast and the realized goals. Therefore it is in the interest of subordinate managers to set budgetary goals at the lowest level possible in order to provide themselves with the highest possible bonus. Research confirms that budgetary slack is significantly higher when such compensation schemes are used than when the company applies truth-inducing budget-based compensation schemes (Libby 2003). In these compensation schemes managers receive bonuses if they achieve budgetary goals and penalties are imposed if the realized goals depart from the planned goals, regardless of the direction in which they deviate. In this case it is in subordinate managers’ interest to set budgetary goals at a level they can achieve. Truth-inducing budget-based compensation schemes do not encourage the creation of budgetary slack, but such compensation schemes are rarely used in practice because the cost of implementing them exceeds their benefits. Because companies usually employ traditional budget-based compensation schemes, we can say that top managers encourage the creation of budgetary slack.

The problem of budgetary slack creation would probably be solved if compensation schemes were not connected to the realization of budgetary goals, giving subordinate managers an interest in integrating slack into operating budgets; but then the operating budget would lose its motivational role. Companies can base compensation schemes on the realization of long-term, strategic goals, but this would also not be a good solution. A management-performance appraisal and reward system based on
the achievement of long-term goals has a poor motivational effect because information on managers’ performance is not available for longer periods and managers could not be rewarded each year. Authors who suggest improvements to traditional budgeting point out that motives for creating budgetary slack would be eliminated if budgetary goals were linked to strategic goals and if companies used measures other than those related to the budget to control and reward subordinate managers (Malinić 2011b).

5. BUDGETING FEATURES WHICH DISCOURAGE CREATION OF BUDGETARY SLACK

Much empiric research has attempted to determine if and how participative budgeting, information asymmetry, and linking management performance appraisal and the reward system to the realization of budgetary goals affect the creation of budgetary slack. Both the individual influence of each of these factors and their combined effect have been analysed. The research has led to contradictory results, thus concluding that neither of these factors has a decisive effect. Budgetary slack is the result of the simultaneous influence of numerous factors (Kren 2003; Lau and Eggleton 2003; Kren and Maiga 2007; Elmasessi and Harris 2011). Participative budgeting creates preconditions for the creation of budgetary slack, information asymmetry facilitates its creation, and linking management performance appraisal and the reward system to the realization of budgetary goals generates a motive. All this does not mean that budgetary slack will be created under such conditions. Top management does not take chances regarding the creation of budgetary slack and will try to prevent its occurrence. These preventive measures can have a decisive influence on whether or not subordinate managers enter into this budgetary game.

Subordinate managers will not create budgetary slack if they think top management is going to discover its presence in proposed budgets. They want to get as high as possible a bonus, but not at the cost of losing their superiors’ trust and the possibility of being promoted, or losing their job. To continuously benefit from the creation of budgetary slack means continuously underestimating organizational units’ performance. The first time budgetary slack is created it might pass unnoticed, but each year it is repeated the risk that top management will discover this opportunistic behaviour of subordinate managers increases.

Subordinate managers who every year achieve or in smaller extent exceed the established budgetary goals acquire a reputation for being good performance managers, while managers whose achievements are consistently much higher than planned acquire the reputation of being managers with unrealistic expectations. They do not want to get a bad reputation because they believe that a good reputation could bring material benefits. Research shows that they pay more attention to reputation in conditions of low information asymmetry (Stevens 2002) because then the possibility of
top management discovering their opportunistic behaviour is much greater. If sub-
ordinate managers create budgetary slack they do not include the maximum possible
amount of slack in their budget proposals, but an amount of slack which will not
attract the attention of their superiors and which they believe the corporate managers
will not discover, and which therefore will not jeopardize their reputation.

Any effort by top management to get budget projections that are as accurate as pos-
sible is also a way of disabling and discouraging the creation of budgetary slack. First
of all, establishing a link between strategic and budgetary goals is very important.
The budget should come from a strategic plan and budgetary goals should be an
integral part of strategic goals. A link must be made between strategy and specific
activities to be realized in the following period, and which financial effects should be
projected in the budget. Insisting on this link reduces arbitrariness. Top management
asking subordinate managers to demonstrate the relationship between adopted stra-
getic goals and proposed budgetary goals will to some extent reduce the possibility
of creating budgetary slack. An integrated performance measurement system such
as the Balanced Scorecard can be useful for linking strategy to operational activities.
This performance measurement system includes a carefully selected and balanced set
of measures distributed according to four perspectives: financial, customer, internal
business process, and learning and growth. It ensures a balance between financial and
non-financial measures and prevents the realization of short-term goals at the ex-
 pense of long-term goals. By using all these measures the Balanced Scorecard forces
each participant to demonstrate the link between strategy and the required resources.
Thus it reduces the space for playing budgetary games and limits subordinate man-
gers’ practice of asking for more resources than are objectively necessary (Malinić
2011b).

The use of advanced budgeting techniques such as Activity-Based Budgeting and Ze-
ro-Based Budgeting can also discourage the creation of budgetary slack. These tech-
niques are characterized by reduced arbitrariness in cost projection. Activity-Based
Budgeting focuses on activities. The cost projection starts with projections of product
and service demand. The activities necessary to meet demand are defined based on
the projected demand. The next step is to determine the type and amount of resour-
ces needed to perform defined activities. The last step bases projected costs on the
determined amount of resources. When cost projection is performed in this way it is
much more difficult to intentionally overestimate the cost. However, it does not mean
that the possibility of creating budgetary slack is completely eliminated.

Zero-Based Budgeting is based on the idea that all costs need to be justified. Most
companies prepare the following year’s budget by adjusting each budget line item in
the current year’s budget for expected price and volume changes. The previous year’s
budget is taken as given and no one questions the justification of the costs contained
therein. It is assumed that most, if not all, current activities will continue in the future
period. The primary focus is on incremental changes to the current operating budget. Therefore, the space for budgetary slack creation is huge. Zero-Based Budgeting has a completely different approach. It requires subordinate managers to prepare budgets from a zero base. It allows no activities to be included in the budget unless subordinate managers can justify their need. Each budget line item is reset to zero and must be justified in total. Subordinate managers must defend the entire cost, not just the changes. Zero-Based Budgeting is applied only to discretionary costs. It is inappropriate for predicting costs that vary in proportion to production, since by their nature they are inevitable once the manufacturing decision is made (Zimmerman 2011).

Reducing information asymmetry and increasing the possibility of discovering the existence of slack in budget proposals can discourage budgetary slack. Top management's ability to detect the existence of slack is greater when budgeting is based on well-organized system of data gathering, creation of information, and its distribution to stakeholders within the organization. A quality information system enables top management to gain insight into organizational units' production and sales capabilities and prevailing circumstances in their supply and sale markets, etc. It results in top management being more familiar with the operation and profit potential of each organizational unit. Such an information system decreases information asymmetry and facilitates assessment of the quality of budget proposals.

Budget proposals should not be approved prior to consideration of their feasibility, mutual compliance, and objectivity. Submitted budget proposals must be analysed in detail. As already mentioned, a good information system is very useful when carrying out such an analysis. In conditions of high information asymmetry it is difficult to determine if the projection contained in a budget proposal is the best possible projection of the organizational units' performance. However, top management can use benchmarking and compare the projected level of production, unit production costs, sales, general and administrative costs, etc. with the figures of other organizational units within the company (internal benchmarking) or with organizational units of other companies in the same business (external benchmarking). If significant deviation is found, top management should require subordinate managers to explain such differences (Horngren et al. 2015).

Despite all efforts, top management will not always be able to detect the existence of slack in submitted budget proposals. Due to the difficulty of identifying budgetary slack and the awareness that subordinate managers have opportunity and motive for creating it, top management often reaches for correction of budget proposals of all organizational units in extent believe that defined budgetary goals had been underestimated. This is not an appropriate solution. Those who gave honest projections of their performance will suffer, but taught by experience, next year they also will include slack in their budget proposals. The unselective and non-reasoned correction of budget proposals by top management usually has an adverse effect.
When corporate managers fail to notice and eliminate budgetary slack in the current budget, they can still take steps to discourage the creation of slack in future budget cycles. They can analyse in detail deviations of actual from planned performance after the budget has been executed. The aim of this analysis is to determine the cause of the deviations. Often such analysis is limited to determining the cause of negative deviations of real from planned values. This is wrong: equal attention should be paid to the cause of positive deviations. Positive deviations might occur due to circumstances that could have not been predicted, mistakes in planning, or deliberately included deviation. In conditions of uncertainty is not easy to determine the cause of occurred deviations. However, research shows that the fact that the deviations are being analysed and that subordinate managers are required to explain the cause of deviations has the psychological effect of preventing them from creating budgetary slack in the next period (Webb 2002).

Top management can discourage the creation of budgetary slack by influencing subordinate managers’ attitudes towards budgeting. Research indicates that the perception of the fairness of budgeting processes and resource allocation based on approved budgets significantly influences subordinate managers’ propensity to create budgetary slack (Maiga and Jacobs 2007b). The perception that the process of creating and approving the budget is correct and fair and that the resource allocation which results from the process is also fair leads subordinate managers to trust their superiors’ competence, experience, honesty, and good faith. In such circumstances subordinate managers believe that their superiors will not use their position to damage them and will act in the interest of all employees. Thus, they are ready to follow the example of their superiors, act correctly, and make available all the information that they have. In this way subordinate managers decrease information asymmetry and limit their own possibility of creating budgetary slack. The trust gained in superiors encourages their cooperativeness and commitment to the achievement of organizational goals, and therefore they do not need to maintain a position of information superiority. When subordinate managers believe that that the budgeting process and results are incorrect they turn to the realization of personal goals, including the creation of budgetary slack. Top management can influence subordinate managers’ perception of budgetary fairness and, at the same time, their propensity to create budgetary slack by the way the budgeting is organized and implemented. As opposed to subordinate managers’ aspirations to acquire and preserve a good reputation, which discourages budgetary slack creation only in conditions of low information asymmetry, a perception of the budgeting process and results as fair has the same discouraging effect on budgetary slack creation, irrespective of the level of information asymmetry (Wentzel 2004).

An absence of subordinate managers’ propensity to create budgetary slack could result from circumstances that are completely independent of the budgeting. Each individual budget participant feels moral responsibility. Whether or not to engage in budgetary slack creation is a moral dilemma. Creation of budgetary slack with the
aim of maximizing personal benefit is a fraudulent act that harms the company and its owners. Ethical issues in accounting usually refer to external financial reporting but are equally important in budgeting, bearing in mind that losses occurred due to suboptimal allocation of resources and unjustified high bonuses as a consequence of budget participants’ non-ethical behaviour can be extremely high. Subordinate managers with high moral principles will not create budgetary slack and put their interests before those of the company (Maiga and Jacobs 2007a). They set internal limitations independent of the information asymmetry level, the importance of achieving budgetary goals to gain positive performance evaluation, or other circumstances that enable or facilitate opportunistic behaviour. Persons of low moral principle will use all opportunities to achieve their own interests. Therefore top management can discourage budgetary slack creation by reaffirming respect for ethical principles.

6. CONCLUSION

The different motives behind the creation of budgetary slack determine whether or not the creation of budgetary slack is a form of dysfunctional behaviour. Companies, i.e., their top management, deliberately create budgetary slack when they want to mitigate certain deficiencies of traditional budgeting such as budget rigidity in conditions of uncertainty, differentiation strategy implementation, and when the focus is exclusively on achieving short-term financial goals. Through the creation of budgetary slack, top management sacrifices the realization of higher budgetary goals for the benefit of flexibility in dealing with unpredictable circumstances and the realization of non-financial goals. Such budgetary slack is an organizational necessity.

Budgetary slack created by subordinate managers, without the knowledge and approval of top management, in conditions where performance evaluation and the reward system are based on realization of the budget, and with the goal of maximizing personal benefit in the form of bonuses and established good reputation, is a problem, and the subject of frequent criticism. Participative budgeting enables this opportunistic behaviour by subordinate managers, information asymmetry facilitates it, and management performance appraisal and a reward system based on the realization of budgetary goals encourages such behaviour. For these reasons, created budgetary slack decreases the quality of the budgeting process because it obscures the true profit potential of organizational units. Created budgetary slack leads to lower profitability. Because of its presence in the budget the organization’s exploitation of market opportunities diminishes and resources are suboptimally allocated, resulting in suboptimal yields on invested assets. Moreover, budgetary slack results in the organization paying managers high compensation that does not correspond to invested effort. Therefore, it is necessary to prevent the creation of such budgetary slack.

Corporate management can prevent the creation of budgetary slack that decreases the efficiency of the budgeting process by abandoning participative budgeting and
implementing top-down budgeting. Although this solves the problem of unwanted budgetary slack it usually results in more damage than benefit. It is more useful to keep participative budgeting and find ways to discourage slack creation. It is important to establish a link between strategic and budgetary goals, to implement advanced budgeting techniques, to develop a quality information system, to analyse the objectivity of budget proposals and of deviation of real from planned values, to implement a budgeting process that ensures that subordinate managers believe in the fairness of budgeting procedures and their results, and to reaffirm respect for ethical principles. All these activities reduce arbitrariness in the projection of budget line items, decrease information asymmetry, and improve top management’s ability to detect the presence of slack in budget proposals.

REFERENCES


Abstract Since a certain misconduct of the transition project represented by a lack of industrial policy has become broadly confirmed, new ideas on further institutional reforms and new development path for transition economies have been proposed. Among those ideas, one of the leading tracks was establishing of export-led growth and designing of corresponding supportive policies. The similar way of thinking has been adopted among policymakers in Serbia, but the policy instruments used were mostly conventional. In this paper we analyse the results of a survey sampling Serbian firms aimed at identification of export obstacles and barriers as they are perceived among the managers of Serbian firms. Three groups of export barriers are explored: external, operational and internal (organisational and marketing) barriers. The objective of the analysis is to help policymakers to design proper policies that can efficiently address and relax obstacles and barriers as seen by the firms (regardless of whether they represent an objective problem or just a subjective perception). Also, it can help in diversifying policies for establishing a firm basis for production of exporting goods and for associated and necessary export activities including international management and marketing practices. Finally, perceptions of marketing export barriers should provide an analytical insight into export marketing practices of domestic firms, predominantly engaged in the field of business-to-business marketing. It is to result in recommendations for marketing managers concerning implementation of international marketing strategies and effective business-to-business relationship management.

Key words: export barriers, industrial policies, innovation, marketing information, international marketing, business to business marketing

JEL: E61, M16, M31
Field: Economics and Business

1. INTRODUCTION

Despite some early warnings already in the first years of transition (Eatwell et al., 1995; Kolodko & Nuti, 1997), only after the crisis eruption in 2007-08 certain misconduct in reform policies has been observed and identified on a broader scale. Basically, the growing number of critics concluded that reforms exclusively directed to market liberalisation and deregulation were insufficient for establishing stability and sustainable growth in transition economies. It was particularly remarked that neglecting of industrial policy biased economic structure of the countries in question, generating substantial lack of tradable goods and oversized drop in manufacturing production and exports (Berglöf, 2010; Cerović & Nojković 2009; Cerović et
Under the circumstances some new ideas have been presented, relying upon the idea of export-led growth for transition economies and about more active government’s industrial policy that should support such a turn.

In Serbia, general economic state of affairs was also burdened by an excessive growth of demand based on imports, noticeable overinvestment in services that was predominantly aimed at local market (finance, retailing, telecommunications), and diminished industrial production already severely demolished during the 1990s due to extremely devastating politics of that time. At the beginning of the crisis (that was experienced in local economy in 2008-09), the government did not react fast enough, and the idea of activating an industrial policy was applied with some delay. The policy was primarily directed at attracting (foreign) investors to establish firms producing tradable goods, at supporting SMEs and recommending (more than supporting) export orientation. Despite elections and several changes of government, such policy basically remained unchanged up to now. On the other hand, it became pretty difficult to make any serious switch in economic behaviour during the years of crisis or – at best – under just slight, short or temporary advancements in the world and primarily European economy.

Bearing all that in mind, we wanted to distinguish what Serbian firms or, more precisely, their managers, perceive as major obstacles in establishing, developing and expanding their export activities and performances. The findings could be a useful guideline for policymakers to decide in what direction they might improve present policies. Also, the findings could be of use for individual managers when rethinking their own views either as a confirmation of their thoughts or as an inducement to call for some collective action. Hence, the main objective of our research is to identify those critical points that will guarantee firmer policy measures when correctly chosen or certain rethinking when seen as insufficient, including certain lessons for the managers.

In this paper we shall concentrate our analysis on the two characteristics of firms in the sample. In doing so, we shall try to define what their common perception of export obstacles and barriers is and what can be seen as specific according to a particular firm type. The two characteristics (firm types) we are interested in refer to (a) small, medium and large firms, and (b) regular and affirmed exporters and those that export temporarily or do not export at all.

This paper is organised in three parts after introductory notes and ends with concluding remarks. We shall first present a brief literature review on export barriers and obstacles that are of some importance for our study. Second, we shall explain the basic elements about the sample, the survey and the methodology used in the entire research, but in somewhat more detail those parts that will be presented in this paper. We continue with basic results identifying major obstacles perceived as such by the firms in the sample as a whole, and further on we shall discuss and comment on spe-
cific remarks of several firm classes. In the concluding section, we shall try to define some policy advice and some instructive points for management practices.

2. EXPORT BARRIERS PERCEPTION: LITERATURE REVIEW

Export barriers have represented an interesting research topic in export marketing literature for decades. Whenever governments, in order to improve export results, are oriented toward developing export-led policies and export assistance programs, the question of effective targeting and contents of national programs arise. Among other things, export policies should be based on the problems as perceived by regular or potential exporters, introducing the need for this kind of firm level investigations.

Barriers to exporting are defined as “any attitudinal, structural, operative or other obstacles that hinder or inhibit companies from taking the decision to start, develop or maintain international activity” (Leonidou, 1995). There are many different export problems that are identified in the literature, as well as a lot of different classifications. The barriers can be organised in two groups (Leonidou, 1995): (a) internal, and (b) external. Internal barriers occur within organisations, and typically are associated with company resources or export marketing strategy. External barriers come from outside the company, either in foreign markets or in national contexts. Katsikeas and Morgan (1994) classify barriers in four groups: (i) external (primarily macro-level factors like currency devaluation, high relative cost of financing exports, bureaucracy within public agencies, lack of government support, ineffective national export promotion programs, and additional problem of foreign competition); (ii) operational (micro-level factors of export activity connected to complex requirements in the export documentation process, payment issues, logistical constraints, etc.); (iii) internal (controllable issues from inside the firms like product considerations, organisation of export departments, lack of competent personnel) and (iv) informational barriers (lack of competence in export market research, lack of export marketing information about foreign markets, e.g. distributors, or problems with transmission of marketing communications with overseas customers).

Effectiveness of export promotion policies can be improved by understanding main factors of export marketing behaviour and performance. In order to identify main determinant of propensity to export, a number of studies analysed the influence of different organisational characteristics and features of international marketing strategy. The majority of them found that organisation’s size and previous export experience are the key determinants of propensity to export (Katsikeas & Morgan, 1994; Cavusgil & Naor, 1987; Dhanajar & Beamish, 2003; Pinho & Martins, 2010; Leonidou et al., 2011). Managers from three firm groups consisting of small, medium and large firms exhibited similar attitude within each group, which suggests that firm’s size influences managers’ perceptions of export problems, and therefore the approach to export businesses. Thus, for example, small firms cope with greater number of export
problems, due to the constraints connected with the firm’s size and resource scarcity. This is probably the reason why a large number of empirical studies that explore export barriers and export performance of small and medium firms have been done (Campbell, 1996; Leonidou, 2004; Pinho & Martins, 2010; Arteaga-Ortiz & Fernández-Ortiz, 2010; Rajendran, 2017, etc.).

Although in all phases of business internationalization some export barriers are encountered, the nature and severity of these obstacles will differ systematically from stage to stage regarding international experience (Leonidou, 1995). There is an overall consensus in the literature that previous export experience has positive effects on firms’ attitude toward exports and their export performance. Exporters, when compared with non-exporters, perceive less export problems, which allows them to become more freely engaged in export businesses (Kaleka & Katsikeas, 1995; Katsikeas & Wortzel, 1997; Pinho & Martins, 2010). All these results suggest that export promotion programs have to address firms and be adjusted in regard to different characteristics of target groups.

It is noticeable that a majority of studies deal with firms from developed countries (Katsikeas & Wortzel, 1997; Bagchi-Sen, 1998; Rundh 2007; Arteaga-Ortiz & Fernández-Ortiz, 2010). Studies from developing countries are relatively rare. Accordingly, one of the objectives of our research is to point at this gap in the literature and provide a study example of a country in transition relaying upon the case of Serbia.

3. METHODOLOGY

For research purposes we have conducted a survey, in order to identify what obstacles and barriers are perceived by managers of Serbian firms regarding export activities. We made a sample of 98 firms from Serbia, relying upon the snowball method that was the only one available regarding the means at our disposal. The survey was conducted during 2015 and 2016. Marketing managers or general managers and/or firm owners (in case of small firms) responded to the questionnaire prepared for the survey. We have complemented the received answers with data from the Serbian Business Registers Agency. In the sample, we found 84 exporters (or 85.7%), and 14 non-exporting firms (14.3%). Regarding firms’ size, 61.2% of the sample consists of small firms, 21.4% of medium and 17.3% of large firms. Regarding export experience, we tracked several issues: 1) types of exporters; 2) export intensity (share of export sales revenues in total sales revenues); 3) number of export markets and 4) characteristics of export destination (for more on sample structure, see Table 1 below).
Table 1: Structure of the sample

<table>
<thead>
<tr>
<th></th>
<th>Number of firms</th>
<th>% of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>98</td>
<td>100%</td>
</tr>
<tr>
<td>Size of firms:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small firms</td>
<td>60</td>
<td>61.2%</td>
</tr>
<tr>
<td>Medium firms</td>
<td>21</td>
<td>21.4%</td>
</tr>
<tr>
<td>Large firms</td>
<td>17</td>
<td>17.3%</td>
</tr>
<tr>
<td>Non-exporters</td>
<td>14</td>
<td>14.3%</td>
</tr>
<tr>
<td>Exporters</td>
<td>84</td>
<td>85.7%</td>
</tr>
<tr>
<td>Types of exporters:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporadic exporters</td>
<td>30</td>
<td>30.6%</td>
</tr>
<tr>
<td>Regular exporters</td>
<td>54</td>
<td>55.1%</td>
</tr>
<tr>
<td>Export intensity (EI = export sales/total sales):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firms with EI less than 1/3</td>
<td>36</td>
<td>45.6%</td>
</tr>
<tr>
<td>Firms with EI between 1/3 and 2/3</td>
<td>20</td>
<td>25.3%</td>
</tr>
<tr>
<td>Firms with EI more than 2/3</td>
<td>23</td>
<td>29.1%</td>
</tr>
<tr>
<td>Number of export markets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 markets</td>
<td>38</td>
<td>46.9%</td>
</tr>
<tr>
<td>Between 5 and 10 markets</td>
<td>21</td>
<td>25.9%</td>
</tr>
<tr>
<td>More than 10 markets</td>
<td>22</td>
<td>27.2%</td>
</tr>
</tbody>
</table>

4. BASIC RESULTS

4.1. EXPORT BARRIERS PERCEPTION – DESCRIPTIVE STATISTICS

In Table 2 below, various types of potential export barriers and obstacles are listed together with firms’ assessments concerning their importance. The importance level is expressed by an average of all given assessments by firms’ managers that range from 1 – non important to 5 – highly important. The main export barrier as highlighted by firms is a certain lack of government support. It is followed by strong international competition, costs of export financing, exchange rate policy, bureaucracy of government agencies, lack of price competitiveness and incapability in fulfilling quality standards. Although among the five leading obstacles as perceived by the firms’ managers we find those that are of external character, the two of them could also be linked with the firms’ performance (international competition and cost of export financing). All these are barriers that are marked higher than 3.5 on average. On the other hand, among the barriers with the least importance are problems concerning export department organisation, poor image of a country and low employee commitment to export. We found as an interesting issue – an issue that we shall refer to later on – assessments attributing moderate importance to the questions of product adap-
tion, lack of information about foreign markets, insufficient innovation, distributors’ selection, low capability for competitive differentiation of offering and for promotion in foreign markets.

Table 2: Importance of export barriers and obstacles

<table>
<thead>
<tr>
<th>Export barriers</th>
<th>Mean (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. External barriers</strong></td>
<td>3.69</td>
</tr>
<tr>
<td>Exchange rate policy</td>
<td>3.86</td>
</tr>
<tr>
<td>High costs of export financing</td>
<td>3.88</td>
</tr>
<tr>
<td>Bureaucracy of government agencies</td>
<td>3.72</td>
</tr>
<tr>
<td>Lack of government support</td>
<td>4.06</td>
</tr>
<tr>
<td>Strong international competition</td>
<td>3.94</td>
</tr>
<tr>
<td>Poor country image</td>
<td>2.70</td>
</tr>
<tr>
<td><strong>2. Operational barriers</strong></td>
<td>3.14</td>
</tr>
<tr>
<td>High transportation costs</td>
<td>3.33</td>
</tr>
<tr>
<td>Problem of transport organisation</td>
<td>3.02</td>
</tr>
<tr>
<td>Provision of export documentation</td>
<td>2.95</td>
</tr>
<tr>
<td>Payment problems of foreign operations</td>
<td>3.26</td>
</tr>
<tr>
<td><strong>3. Organisational barriers</strong></td>
<td>2.79</td>
</tr>
<tr>
<td>Export department organisation</td>
<td>2.53</td>
</tr>
<tr>
<td>Deficiency of skilled personnel</td>
<td>3.04</td>
</tr>
<tr>
<td>Low employee commitment to export</td>
<td>2.79</td>
</tr>
<tr>
<td><strong>4. Marketing barriers</strong></td>
<td>3.25</td>
</tr>
<tr>
<td>Adaption of product for foreign markets</td>
<td>3.43</td>
</tr>
<tr>
<td>Fulfilling quality standards</td>
<td>3.63</td>
</tr>
<tr>
<td>Problems with providing after sale services</td>
<td>2.91</td>
</tr>
<tr>
<td>Absence of direct contact with foreign consumers</td>
<td>2.85</td>
</tr>
<tr>
<td>Foreign distributor selection</td>
<td>3.18</td>
</tr>
<tr>
<td>Lack of foreign market information</td>
<td>3.27</td>
</tr>
<tr>
<td>Organisation of foreign market research</td>
<td>3.33</td>
</tr>
<tr>
<td>Incapacity of promotion in foreign markets</td>
<td>3.14</td>
</tr>
<tr>
<td>Insufficient innovation</td>
<td>3.21</td>
</tr>
<tr>
<td>Inability to differentiate offer from competitors</td>
<td>3.18</td>
</tr>
<tr>
<td>Lack of price competitiveness</td>
<td>3.68</td>
</tr>
</tbody>
</table>

As previously mentioned, export barriers can be divided in four groups: (1) external barriers, (2) operational barriers, (3) organisational and (4) marketing barriers. Managers attributed the highest average mark for importance to the group of external barriers (3.69). It is followed by marketing barriers in the second place (3.25), then
operational barriers in the third one (3.14), while organisational export problems are seen as the least – but still highly important (2.79). Within the first group of barriers and obstacles, firms’ managers assessed each individual barrier with marks above the average one for the entire group, since the problem of poor country image, which is an element of the group, is perceived as the least important issue (not just within the group but within the whole list of offered alternatives).

The above assessments on importance of certain export obstacles as given by the firms indicate that entrepreneurs and managers expect far more active and supportive role of the government in promoting and inciting export activities. Namely, it is remarkable that despite claimed change in policies and frequent highlighting of export significance by the government, the firms still point at insufficient government support as a dominant obstacle for better export performance. Moreover, when firms’ responses are analysed according to firm types, it appears that almost all firm classes put this issue among the first five problems. Thus, for example, the lack of government support appears as the first obstacle among SMEs, while large firms put it in the second place; it is also seen as the first problem among exporters, if their main foreign market is ex-YU region or the EU, though among those that export to ex-USSR and Asia, we have found one and the only group of firms that does not put the government attitude among the first five difficulties met in export business. On the other hand, the firms that are smaller exporters (up to 33% of sales revenue come from abroad) see, again, insufficient government support as the principal problem while, expectedly, the issue is becoming slightly less important among more intensive (and say, already established) exporters but is still among the top obstacles they face (in the second place among the firms earning 33-66% of their revenues abroad and the fourth among those that earn more than 66% in foreign markets). When looking at the firms’ age, we may see that the issue of insufficient government support is ranked among the most important three obstacles in all the firms regardless of their age. However, the issue comes at the first place among the newer firms established under or after the crisis (from 2007 onwards), which is particularly disturbing since it relates to the period of allegedly more active government engagement in encouraging export-oriented efforts.

Although the abovementioned assessments raise an important signal regarding government–firm relationship and even raise the issue of re-questioning of some government policies, it is still not clear enough without further analyses what kind of objections firms are willing to put forward in this way. One can remark that many other complaints connected with the group of external obstacles are very much associated with the expected government support. Thus, we can relatively easy realise that another highly ranked obstacle – too much bureaucracy within state agencies – corresponds very much with the issue of government support. Even more so the issues of exchange rates and high costs of export financing are connected with government policies. Also some other highlighted problems from other groups whose resolution
is expected to be assisted by the government bodies and agencies within a coherent export supporting policy like difficulties in foreign market research (3.33) or lack of information about foreign markets (3.27), makes the part of the same story.

On the other hand, in the group of external barriers we have identified inability of firms to deal with international competition, which is seen as the second most important obstacle for exports, according to the firms’ assessments. This highly ranked problem turns the attention to the internal abilities within the firms themselves indicating their business and particularly marketing weaknesses that can be observed through the assessments attributed to the marketing barriers.

Among marketing barriers, the firms from the sample have assigned the highest importance to the lack of price competitiveness, inability to pursue the quality standards, and incapability to adopt products competitive in foreign markets. After these three issues, the firms pointed at poor organisation of foreign market research and lack of foreign market information and finally, insufficient innovation. Later on, we shall see that these obstacles are not equally important for all the firms and that assessments somewhat differ depending on the firm’s size and firm’s exporting experience. However, these assessments show some criticism towards inner organisation within the firms, but also a certain lack of confidence where an adequate government assistance in raising level of knowledge and in organising certain services could encourage firms to enter export business. Thus, for example, among the first three obstacles, it is evident that firms clearly recognise some inner weaknesses (except, to some extent, for price competitiveness that is connected with exchange rate regime). However, the sequence of other recognised obstacles could be understood as a deficiency of the firms in question, but they are mostly improvable by well-designed export enhancing government programs (information and marketing research elements for foreign markets through specialised agencies, innovation stimuli and, in particular, well organised innovation activities supported by the state (Mazzucato, 2011, 2016).

Looking strictly from the marketing point of view, we may systemize main marketing problems in two Ps (price and product), and problems in market research competencies. Since price competitiveness and product quality issues are the most important problems we face with inferior competitive position of firms that are not able to develop any of three basic competitive strategies (low cost, differentiation or focus). Due to low cost of labour in Serbia, it might not be expected that one of the main problems would be the price competitiveness, but when taken together with problems of quality, we may conclude that firms’ competitive position is somewhere between low cost and differentiation, a position referred to as “stuck in the middle.”

Regarding problems of market research competencies, one may remark on two issues: (i) inability of firms to properly conduct foreign market research together with (ii) lack of information from foreign markets. Indeed, primary foreign market research-
ers are complex and demanding in terms of knowledge and financial resources. On the other hand, nowadays there are widely available different secondary sources of information that are relatively cheap and easy to assemble. Therefore, we may conclude that firms are primarily lacking knowledge, which prevents them to use available secondary sources provided by government agencies and other domestic, foreign or global institutions. This conclusion is in accordance with some previous studies on intellectual capital development in Serbian firms, which revealed that firms underestimate the use of available information sources offered by universities and institutes, professional associations, government agencies, chambers of commerce, etc. (Cerović et al., 2015). However, we may not neglect the question whether information collected by all these institutions are at a necessary level of quality in terms of scope, accuracy and contents, particularly in government agencies and corresponding services of chamber of commerce.

It is well known that, in export marketing, one of the most important sources of foreign market information is a foreign distributor. This implies a great importance of creating and developing long-term relationships with foreign distributors. Unfortunately, our results indicate that long-term relationships between an exporter and a foreign distributor do not exist, which means that exporters are more oriented toward transactions than toward partnership marketing. This transactional perspective is an additional sign of poor marketing practice in Serbian firms. Although firms, assessing their weaknesses, see price non-competitiveness as their biggest problem, it comes out that their central problems are much larger: they comprise problems of inadequate quality, inability of product adjustment for foreign markets and lack of information. It is important to underline that just these issues make a foundation of the biggest opportunities for export improvement.

Among operational problems, high transportation cost and problems of foreign operation payments have been assessed as the most important and with relatively high grades. On the other hand, all of organisational barriers have marks below the average mark for all barriers in the questionnaire. Among them, the firms valued deficiency of skilled personnel as the most important problem. We shall come back in more detail to the barriers of the two last groups mentioned in the next section, analysing differences in export barriers perception within specific subcategories of firms.

4.2. EXPORT BARRIERS PERCEPTION AND THE SIZE OF FIRM

As pointed out, apart from the general overview of firms’ opinion, we intended to analyse in more detail assessments and possible differences in perceiving export difficulties among the firms of various size, or specifically between small, medium and large enterprises. Indeed, the results obtained from the survey reveal some differences in export practices and in perception of export problems. In general, small firms
perceive as more important export problems than large firms (see Table 3). They value with higher marks all four groups of barriers, in comparison to large firms.

Table 3: Importance of export barriers as assessed by small, medium and large firms

<table>
<thead>
<tr>
<th>Export barriers</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. External barriers</td>
<td>3.71</td>
<td>3.72</td>
<td>3.6</td>
</tr>
<tr>
<td>Exchange rate policy</td>
<td>3.97</td>
<td>3.67</td>
<td>3.71</td>
</tr>
<tr>
<td>High cost of export financing</td>
<td>3.95</td>
<td>3.81</td>
<td>3.71</td>
</tr>
<tr>
<td>Bureaucracy of government agencies</td>
<td>3.69</td>
<td>3.81</td>
<td>3.71</td>
</tr>
<tr>
<td>Lack of government support</td>
<td>4.05</td>
<td>4.1</td>
<td>4.06</td>
</tr>
<tr>
<td>Strong international competition</td>
<td>3.86</td>
<td>4</td>
<td>4.12</td>
</tr>
<tr>
<td>Poor country image</td>
<td>2.73</td>
<td>2.95</td>
<td>2.29</td>
</tr>
<tr>
<td>2. Operational barriers</td>
<td>3.18</td>
<td>3.26</td>
<td>2.85</td>
</tr>
<tr>
<td>High transportation cost</td>
<td>3.17</td>
<td>3.43</td>
<td>3.76</td>
</tr>
<tr>
<td>Problem of transport organisation</td>
<td>3.27</td>
<td>2.9</td>
<td>2.29</td>
</tr>
<tr>
<td>Provision of export documentation</td>
<td>3</td>
<td>3.19</td>
<td>2.47</td>
</tr>
<tr>
<td>Problem of payment in foreign operations</td>
<td>3.27</td>
<td>3.52</td>
<td>2.88</td>
</tr>
<tr>
<td>3. Organisational barriers</td>
<td>2.92</td>
<td>2.63</td>
<td>2.55</td>
</tr>
<tr>
<td>Export department organisation</td>
<td>2.59</td>
<td>2.53</td>
<td>2.35</td>
</tr>
<tr>
<td>Deficiency of skilled personnel</td>
<td>3.19</td>
<td>2.85</td>
<td>2.76</td>
</tr>
<tr>
<td>Low employee commitment to export</td>
<td>2.97</td>
<td>2.5</td>
<td>2.53</td>
</tr>
<tr>
<td>4. Marketing barriers</td>
<td>3.25</td>
<td>3.47</td>
<td>3.02</td>
</tr>
<tr>
<td>Adaption of product for foreign markets</td>
<td>3.42</td>
<td>3.71</td>
<td>3.12</td>
</tr>
<tr>
<td>Fulfilling quality standards</td>
<td>3.42</td>
<td>4.05</td>
<td>3.88</td>
</tr>
<tr>
<td>Problems with providing after sale services</td>
<td>2.82</td>
<td>3.38</td>
<td>2.65</td>
</tr>
<tr>
<td>Absence of direct contact with foreign consumers</td>
<td>2.93</td>
<td>2.81</td>
<td>2.59</td>
</tr>
<tr>
<td>Foreign distributor selection</td>
<td>3.22</td>
<td>3.32</td>
<td>2.88</td>
</tr>
<tr>
<td>Lack of foreign market information</td>
<td>3.47</td>
<td>3</td>
<td>2.88</td>
</tr>
<tr>
<td>Organisation of foreign market research</td>
<td>3.35</td>
<td>3.33</td>
<td>3.24</td>
</tr>
<tr>
<td>Incapacity of promotion in foreign markets</td>
<td>3.15</td>
<td>3.43</td>
<td>2.76</td>
</tr>
<tr>
<td>Insufficient innovation</td>
<td>3.31</td>
<td>3.45</td>
<td>2.59</td>
</tr>
<tr>
<td>Inability to differentiate offer from competitors</td>
<td>3.1</td>
<td>3.6</td>
<td>2.94</td>
</tr>
<tr>
<td>Lack of price competitiveness</td>
<td>3.55</td>
<td>4.05</td>
<td>3.71</td>
</tr>
</tbody>
</table>

In ranking the first five obstacles concerning exports (Table 4), the differences are not significant though some interesting variations appear. Large firms are primarily concerned with competition in foreign markets, they cope with the problems of transportation and storage (which could be a problem related to firm size and scale of
exports), and are critical in regard to their price competitiveness, which is not necessarily the case with smaller firms (except for some medium enterprises).

**Table 4: Ranking top five export barriers for small, medium and large firms**

<table>
<thead>
<tr>
<th>Small firms</th>
<th>Medium firms</th>
<th>Large firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lack of government support</td>
<td>Lack of government support</td>
<td>Strong international competition</td>
</tr>
<tr>
<td>2 Exchange rate policy</td>
<td>Lack of price competitiveness</td>
<td>Lack of government support</td>
</tr>
<tr>
<td>3 High cost of export financing</td>
<td>Fulfilling quality standards</td>
<td>Fulfilling quality standards</td>
</tr>
<tr>
<td>4 Strong international competition</td>
<td>Strong international competition</td>
<td>High transportation cost</td>
</tr>
<tr>
<td>5 Bureaucracy of government agencies</td>
<td>High cost of export financing</td>
<td>Lack of price competitiveness</td>
</tr>
</tbody>
</table>

On the other hand, there are some statistically significant differences (marked grey in Table 3) in assessing the importance of problems that small and large firms face in export business. Such a problem was identified in regard to transport organisation (t=2.751, p=0.007), which could appear as a consequence of higher competencies, broader possibilities and better organisation of transport in larger firms. Far more interesting are the differences in perceiving deficiencies of information about foreign markets (t=1.705, p=0.092) and lagging on innovation (t=1.800, p=0.076). These two problems – lack of export information and insufficient innovation – concern much more seriously smaller firms than larger ones. Quite similar results appear in observing medium and large firms on the subject of innovation. There is a significant difference between medium and large firms (t=1.946, p=0.060) in perceiving lags in innovation practices; medium firms apply the highest importance to the problem of innovations deficiency when compared with both – small and large firms. This brings us again to the question as to how government actually supports SMEs and to what extent it assists them in their operations, in inner organisation and upgrading their knowledge in conducting business, or it is just limited to supporting entering of SMEs to the market, leaving them totally alone to find export paths, try to innovate, etc. It seems that this is among the most important but neglected issues in government policies toward development of SMEs. As to the issue of neglected innovation policies based on the doubtful premise of full state withdrawal from economic processes relying on individual entrepreneurial skills, it was repeatedly remarked that totally inactive role of the state may rather obstruct development of the economy than incite remarkable upward moves (Chang, 2011, and again Mazzucato, 2011).
4.3. EXPORT BARRIERS PERCEPTION AND EXPORT EXPERIENCE

We have also explored differences in export barriers perceived in regard to export experience of the firms (Table 5). First, we were observing attitudes and detecting different perceptions of regularly exporting firms (Ex) and firms that do not export (NEx). In accordance with some previous research results, we found that non-exporting firms, if compared with regular exporters, evaluated the majority of export barriers with higher marks, that is, as more important (Table 5). The principal differences in perceiving obstacles of these two categories of firms were found in the group of marketing barriers. They produce more difficulties for non-exporters. Apart from high difference in assessed importance for the full group of marketing barriers (3.62 NEx vs. 3.19 Ex), we have found three significantly different assessments between exporters and non-exporters regarding inability of fulfilling quality standards (t=1.858, p=0.066), problems with providing after sale services (t=2.060, p=0.042) and lack of foreign market information (t=1.917, p=0.058), and all are assessed with higher grades by firms that do not export (Table 5, the first five columns).

However, these obstacles are not always the principal ones for non-exporters. As the main barriers that prevent export activities, these firms perceive the following: exchange rate policy, bureaucracy of government agencies, fulfilling quality standards, lack of price competitiveness and high cost of export financing (Table 6), all with average marks higher than 4. On the other hand, exporters that are already in exporting business value just one problem with the average mark higher than 4, and that is – not surprisingly since they are directly affected – lack of government support. Finally, we have also found two more statistically significant differences in assessments between exporters and non-exporters, regarding importance of bureaucracy of government agencies (t=1.853, p=0.067) among external, and regarding export department or organisation (t=1.849, p=0.068) among organisational barriers.

Table 5: Importance of export barriers as assessed according to export experience: exporters (Ex), non-exporters (NEx), regular (REx) and sporadic exporters (SEx)

<table>
<thead>
<tr>
<th>Export barriers</th>
<th>Ex</th>
<th>NEx</th>
<th>T</th>
<th>p</th>
<th>NEx</th>
<th>SEx</th>
<th>REx</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. External barriers</td>
<td>3.67</td>
<td>3.84</td>
<td></td>
<td></td>
<td>3.84</td>
<td>3.86</td>
<td>3.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rate policy</td>
<td>3.77</td>
<td>4.36</td>
<td>1.556</td>
<td>0.123</td>
<td>4.36</td>
<td>3.77</td>
<td>3.78</td>
<td>1.199</td>
<td>0.306</td>
</tr>
<tr>
<td>High cost of export financing</td>
<td>3.86</td>
<td>4.00</td>
<td>0.431</td>
<td>0.667</td>
<td>4.00</td>
<td>3.97</td>
<td>3.80</td>
<td>0.304</td>
<td>0.739</td>
</tr>
<tr>
<td>Bureaucracy of government agencies</td>
<td>3.61</td>
<td>4.36</td>
<td>1.853</td>
<td>0.067</td>
<td>4.36</td>
<td>3.97</td>
<td>3.43</td>
<td>3.206</td>
<td>0.045</td>
</tr>
<tr>
<td>Lack of government support</td>
<td>4.11</td>
<td>3.79</td>
<td>-1.029</td>
<td>0.306</td>
<td>3.79</td>
<td>4.23</td>
<td>4.04</td>
<td>0.844</td>
<td>0.433</td>
</tr>
<tr>
<td>Strong international competition</td>
<td>3.96</td>
<td>3.79</td>
<td>-0.502</td>
<td>0.617</td>
<td>3.79</td>
<td>4.17</td>
<td>3.85</td>
<td>0.771</td>
<td>0.465</td>
</tr>
<tr>
<td>Export barriers</td>
<td>Ex</td>
<td>NEx</td>
<td>T</td>
<td>p</td>
<td>NEx</td>
<td>SEx</td>
<td>REx</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----</td>
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<td>-----</td>
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<td>-----</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Poor country image</td>
<td>2.70</td>
<td>2.71</td>
<td>0.030</td>
<td>0.976</td>
<td>2.71</td>
<td>3.03</td>
<td>2.52</td>
<td>1.385</td>
<td>0.255</td>
</tr>
<tr>
<td><strong>2. Operational barriers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High transportation cost</td>
<td>3.40</td>
<td>2.86</td>
<td>-1.488</td>
<td>0.140</td>
<td>2.86</td>
<td>3.47</td>
<td>3.37</td>
<td>1.152</td>
<td>0.320</td>
</tr>
<tr>
<td>Problem of transport organisation</td>
<td>3.05</td>
<td>2.86</td>
<td>-0.495</td>
<td>0.622</td>
<td>2.86</td>
<td>3.76</td>
<td>2.67</td>
<td>7.331</td>
<td>0.001</td>
</tr>
<tr>
<td>Provision of export documentation</td>
<td>2.87</td>
<td>3.43</td>
<td>1.470</td>
<td>0.145</td>
<td>3.43</td>
<td>3.63</td>
<td>2.50</td>
<td>7.901</td>
<td>0.001</td>
</tr>
<tr>
<td>Problem of payment in foreign operations</td>
<td>3.26</td>
<td>3.21</td>
<td>-0.116</td>
<td>0.908</td>
<td>3.21</td>
<td>3.27</td>
<td>3.26</td>
<td>0.007</td>
<td>0.993</td>
</tr>
<tr>
<td><strong>3. Organisational barriers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export department organisation</td>
<td>2.43</td>
<td>3.14</td>
<td>1.849</td>
<td>0.068</td>
<td>3.14</td>
<td>2.88</td>
<td>2.20</td>
<td>4.134</td>
<td>0.019</td>
</tr>
<tr>
<td>Deficiency of skilled personnel</td>
<td>2.98</td>
<td>3.43</td>
<td>1.109</td>
<td>0.270</td>
<td>3.43</td>
<td>3.36</td>
<td>2.78</td>
<td>2.218</td>
<td>0.115</td>
</tr>
<tr>
<td>Low employee commitment to export</td>
<td>2.77</td>
<td>2.93</td>
<td>0.382</td>
<td>0.703</td>
<td>2.93</td>
<td>2.89</td>
<td>2.70</td>
<td>0.228</td>
<td>0.796</td>
</tr>
<tr>
<td><strong>4. Marketing barriers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaption of product for foreign markets</td>
<td>3.35</td>
<td>3.93</td>
<td>1.484</td>
<td>0.141</td>
<td>3.93</td>
<td>3.33</td>
<td>3.35</td>
<td>1.092</td>
<td>0.340</td>
</tr>
<tr>
<td>Fulfilling quality standards</td>
<td>3.52</td>
<td>4.29</td>
<td>1.858</td>
<td>0.066</td>
<td>4.29</td>
<td>3.27</td>
<td>3.67</td>
<td>2.503</td>
<td>0.087</td>
</tr>
<tr>
<td>Problems with providing after sale services</td>
<td>2.79</td>
<td>3.64</td>
<td>2.060</td>
<td>0.042</td>
<td>3.64</td>
<td>2.57</td>
<td>2.91</td>
<td>2.664</td>
<td>0.075</td>
</tr>
<tr>
<td>Absence of direct contact with foreign consumers</td>
<td>2.83</td>
<td>2.93</td>
<td>0.231</td>
<td>0.818</td>
<td>2.93</td>
<td>2.60</td>
<td>2.96</td>
<td>0.649</td>
<td>0.525</td>
</tr>
<tr>
<td>Foreign distributor selection</td>
<td>3.12</td>
<td>3.50</td>
<td>0.971</td>
<td>0.334</td>
<td>3.50</td>
<td>3.28</td>
<td>3.04</td>
<td>0.762</td>
<td>0.470</td>
</tr>
<tr>
<td>Lack of foreign market information</td>
<td>3.17</td>
<td>3.86</td>
<td>1.917</td>
<td>0.058</td>
<td>3.86</td>
<td>3.43</td>
<td>3.02</td>
<td>2.940</td>
<td>0.058</td>
</tr>
<tr>
<td>Organisation of foreign market research</td>
<td>3.33</td>
<td>3.29</td>
<td>-0.129</td>
<td>0.898</td>
<td>3.29</td>
<td>3.47</td>
<td>3.26</td>
<td>0.260</td>
<td>0.772</td>
</tr>
<tr>
<td>Incapacity of promotion in foreign markets</td>
<td>3.10</td>
<td>3.43</td>
<td>0.858</td>
<td>0.393</td>
<td>3.43</td>
<td>3.30</td>
<td>2.98</td>
<td>0.911</td>
<td>0.406</td>
</tr>
<tr>
<td>Insufficient innovation</td>
<td>3.12</td>
<td>3.71</td>
<td>1.422</td>
<td>0.158</td>
<td>3.71</td>
<td>3.14</td>
<td>3.12</td>
<td>1.003</td>
<td>0.371</td>
</tr>
<tr>
<td>Inability to differentiate offer from competitors</td>
<td>3.17</td>
<td>3.21</td>
<td>0.110</td>
<td>0.913</td>
<td>3.21</td>
<td>3.18</td>
<td>3.17</td>
<td>0.006</td>
<td>0.994</td>
</tr>
<tr>
<td>Lack of price competitiveness</td>
<td>3.62</td>
<td>4.07</td>
<td>1.211</td>
<td>0.229</td>
<td>4.07</td>
<td>3.63</td>
<td>3.61</td>
<td>0.729</td>
<td>0.485</td>
</tr>
</tbody>
</table>
We have extended our analysis by dividing the firms into three groups: non exporters, sporadic exporters (SEx) and regular exporters (REx) in order to identify whether some differences in perceiving obstacles appear among them. Expectedly, the majority of differences in assessing obstacles for export remained when non-exporting firms were analysed vis-à-vis exporters. However, we found some specific characteristics that concern sporadic exporters: sporadic exporters assessed the importance of export barriers at a higher grade than exporters, but also higher than non-exporters did for all types except for marketing barriers. Also, it is remarkable that in this way of firms’ grouping we encounter some statistically significant differences in assessing the importance of operational barriers, evidently due to the assessments of sporadic exporters. Thus, we find significant differences in evaluating problems with transport organisation (F=7.331, p=0.001) and provision of necessary export documentation (F=7.901, p=0.001), that is, with problems that are relatively successfully resolved among regular exporters. Together with high marks for external and organisational barriers, this indicates what issues should be targeted in export supporting policies when new entrants in export activities are in question. For this purpose, some educational programmes are quite suitable. Moreover, they are not expensive or too complex for execution.

Table 6: Most important export barriers as assessed according to different firms’ export experience

<table>
<thead>
<tr>
<th>R.</th>
<th>Non exporters</th>
<th>Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exchange rate policy</td>
<td>Lack of government support</td>
</tr>
<tr>
<td>2</td>
<td>Bureaucracy of government agencies</td>
<td>Strong international competition</td>
</tr>
<tr>
<td>3</td>
<td>Fulfilling quality standards</td>
<td>High cost of export financing</td>
</tr>
<tr>
<td>4</td>
<td>Lack of price competitiveness</td>
<td>Exchange rate policy</td>
</tr>
<tr>
<td>5</td>
<td>High cost of export financing</td>
<td>Lack of price competitiveness</td>
</tr>
</tbody>
</table>

Types of exporters

<table>
<thead>
<tr>
<th>R.</th>
<th>Sporadic exporters</th>
<th>Regular exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lack of government support</td>
<td>Lack of government support</td>
</tr>
<tr>
<td>2</td>
<td>Strong international competition</td>
<td>Strong international competition</td>
</tr>
<tr>
<td>3</td>
<td>High cost of export financing</td>
<td>High cost of export financing</td>
</tr>
<tr>
<td>4</td>
<td>Bureaucracy of government agencies</td>
<td>Exchange rate policy</td>
</tr>
<tr>
<td>5</td>
<td>Exchange rate policy</td>
<td>Fulfilling quality standards</td>
</tr>
</tbody>
</table>

5. CONCLUSIONS

The results presented show how firms perceive significance of different export barriers and various groups of these barriers. Many firms perceive some of the obstacles in a similar way, but the importance of some barriers differs in respect of the firms’
size or their export experience. The results, however, point out at least three main concluding remarks:

- **First**, external export obstacles are perceived as a dominant difficulty in developing export activities, and among them an inadequate government support in the first place – despite government claims that export is one of the leading priorities in its policies. Among other external problems, firms highlighted strong international competition, problem of export financing, exchange rate policy, bureaucracy of government agencies, i.e. all problems that are beyond firms’ control, which can only strengthen their plea for government assistance;

- **Second**, although not equally critical, the firms recognise some obstacles that are more of inner character and therefore more under their control. Main barriers of that kind were recognised in regard to product quality they are able to offer, their price competitiveness, ability to adopt products suitable for foreign markets and ability to acquire information about foreign markets. All these problems reveal lagging behind foreign competitors in marketing practices (while the first two appear as an evidence of firms’ inability to develop even basic competitive strategies). Also, the problems concerning foreign market information acquiring reveals an evident absence of marketing orientation; it seems that firms use transactional approach in establishing relations with foreign distributors;

- **Third**, we found that perception of export barriers depends partially on the size of firms and their export experience so that:
  - small and medium-sized firms perceive more export obstacles than large firms;
  - lack of innovation and lack of foreign market information concern more small than large firms; this implies the necessity of a more active government support and role in this area, especially in the field of innovation for small and medium firms, which is often claimed as an important impeller of national export improvement;
  - non-exporters and sporadic exporters are sensitive to a greater number of export problems than regular exporters, which is in accordance with previous findings in the literature, regarding impact of previous international experience on attitude of firms toward exporting activities;
  - non-exporters and sporadic exporters perceive bureaucracy, logistic problems and problems of product quality and information acquiring as more important than exporters; however, in comparing sporadic and regular exporters, we found that support in overcoming some minor problems of transport organisation and preparation of export documentation could enhance sporadic exporters to expand their export activities and to switch to the group of regular ones.
After this analytical summary, we can structure our main recommendations in two basic segments: (i) policy recommendation and (ii) managerial implications, i.e. references for managerial practices.

(i) - **Policy recommendation:** export supporting policies, particularly those aiming at small and medium firms, are deficient if oriented only at establishment of new firms, and initial support for beginners and start-ups; policies should target main export problems of various groups of firms like:
- informational support for small and medium firms, non exporters and sporadic exporters, regarding foreign markets and foreign market research;
- clustering and/or policies to enhance cooperation of smaller and large (particularly exporting) firms for easier dealing with foreign competition and faster reaction to foreign market requirements; clusters and/or export consortia are important in generating knowledge, innovation, and information acquiring and sharing, which are significant export obstacles for small and medium firms;
- innovation supporting policies for small and medium firms, including a more active role of the government in financing and leading innovation programmes that will include smaller and medium firms and make available their participation and/or use of the results achieved;
- increase availability of all support programmes (building awareness and facilitating access to them);
- all this can also be improved by more active and improved role of the chambers of commerce and professional associations, whose current resources and activities are seen as unimportant and negligible (Cerović et al., 2015).

(i) - **Managerial implications:** according to the survey results, recommendations for managers could be primarily defined in regard to developing of export marketing strategy like:
- switching from transactional exchange to collaborative exchange, in order to establish marketing relationship with business buyers, who are main sources of information and main partners in export strategy adaptation in foreign markets; relationships, rather than simple transactions, provide the central focus in business marketing and can create value-added exchanges and collaborative advantage (Day, 2010; Hutt & Speh, 2010); as export business is, by its very nature, a business-to-business relationship, the most important advantages of business marketing come to full expression and should be used;
- more intensive search for all available information sources and more exhaustive use of them;
- applying strategies that focus on market niches, particularly by increasing specialisation, which could enable firms to avoid direct contact with strong competitors, usually seen as a specific barrier for expanded exports;
cooperation with other firms, foreign or domestic, universities and R&D organisations, creating networks that should result in advanced knowledge and improved information sharing that might effectively foster internationalization.

REFERENCES


QUANTITATIVE ANALYSIS
THE IMPORTANCE OF STUDYING DIFFERENCE EQUATIONS THROUGH MATHEMATICS COURSES FOR ECONOMISTS

Jelena Stanojević *, Katarina Kukić**

Abstract This research is motivated by the integration of mathematics and economics through a subject important for both fields – difference equations. In Serbia, difference equations are not generally studied either as a part of high school mathematics or within university courses of mathematics at the two faculties where we conducted our research: at the Faculty of Economics and the Faculty of Transport and Traffic Engineering. One of the aspects of the research has been to investigate if it is possible to introduce students to the basic concepts of difference equations in a high-quality manner within a very limited time frame, constrained by the number of classes. The second aspect of this research has been to investigate the level of students’ motivation and interest in learning. Blonsky (1979) points out the importance of a high level of students’ motivation and personal interest in learning mathematics: “the creation of courses of natural sciences, mathematics and physics, based on their interests, everyday experience and observations of life…will contribute to the intellectual development, the formation of abilities to understand better natural phenomena and reality”. Furthermore, at the beginning of this paper, we shall give some examples of applications of difference equations in economics which show the importance of studying them through mathematics courses.

Keywords: difference equations, mathematical education, motivation, personal involvement in learning

JEL: A22
Field: Economics

1. INTRODUCTION

As an example of integration of the two fields of investigation, mathematics and economics, we considered difference equations. Mathematical methods help in solving and analyzing very complex economic problems and many economic concepts can get precise definitions through the use of mathematics. Moreover, the implementation of difference equations in modeling traffic as a discrete dynamical system is a standard procedure. Achieving the goal of connecting mathematics and economics or engineering practice is possible only through the use of strong theoretical principles of mathematics. The economic interpretation of abstract mathematical concepts can be achieved by using mathematical models in economy. This issue of correlation of mathematical and economic education, both in schools and universities, was discussed in many publications, for example the ones of Burmistrova (2001, 2011), Kartezhnikov (2007), Kiyko (2006), Kolyagin et al. (1975), Monakhov (1995), Simo* Faculty of Economics, University of Belgrade, e-mail: jelenas@ekof.bg.ac.rs
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Developments in quantitative modeling of economic behavior

nov (2000) and others. Furthermore, the process of teaching mathematics in secondary schools and colleges with economic orientation was described by Burmistrova (2001), Klimenkova (2003), Simonov (2000), and others, while the same process at universities for economics was presented by Burmistrova (2011), Nikanorenko (2003) and others.

The second aspect of this research is to identify the level of students’ motivation, interest and personal involvement in learning. Many authors, e.g. Markova (2010), Serikov (1999), Shchukina (1979) and others, highlight precisely a high level of motivation as one of the key elements of effective learning. “No information offered to a student will be assimilated, accepted and perceived, if he/she does not have the appropriate motivation and personal interest in learning and cognitive activity” (Teplov, 1985). In their article, Nasibulloev et al. (2015) analyzed the system of differentiated tasks as mechanisms of the development of learning motivation. They identified three levels of tasks in mathematics: algorithms, problem-search tasks and creative tasks. We will avoid a detailed analysis of the aforementioned in this paper.

In Serbia, difference equations are not generally studied as a part of high school mathematics. The exception is the plan for the third year of the Mathematical Grammar School, which is a famous high school specialized for the education of talented students in the field of mathematics, physics and programming, where linear difference equations are studied within the Analysis with Algebra course. Teaching mathematics at the Faculty of Economics and the Faculty of Transport and Traffic Engineering for more than fifteen years, the authors have noticed that students should have the basic knowledge of difference equations even at the level of bachelor studies. For example, the basic supply and demand model in economics is described using a system of difference equations, and they are also used in financial mathematics, in modeling traffic as a discrete system and so forth. Since the topic of difference equations is not covered by mathematics courses at the two mentioned faculties, this research should be the first step in reconsidering curriculums. In many universities, such as the London School of Economics, TU München, etc., difference equations are a standard part of basic mathematics courses. Beginning with the next school year 2017/18, an international program of basic studies will be organized at the Faculty of Economics in cooperation with the London School of Economics (LSE). According to the plan of LSE, difference equations are a standard part of the courses Mathematics 1 and 2, including the question of stable solutions of difference equations. Motivated by that approach, this year, in the form of a pilot project, we decided to test the willingness and motivation of our current students to learn more about that topic outside the regular classes.

Difference equations are not included in standard mathematics courses, either at the Faculty of Economics or at the Faculty of Transport and Traffic Engineering. At the Faculty of Economics, majority of students have one course of mathematics in the
first semester with 60+60 lessons in 15 weeks. At the Faculty of Transport and Traffic Engineering, students have three mathematics courses in the first three semesters that include standard mathematical topics of interest to engineers: Mathematics 1 with 45+45 lessons, Mathematics 2 with 45+30 lessons and Mathematics 3 with 30+30 lessons. As we explained in the previous paragraph, we think that, due to certain problems encountered in practice, students should acquire the basic knowledge about difference equations during their undergraduate education. With the limited time for covering the obligatory content of the courses, we have not been able to put difference equations into regular classes so far. Thus, we decided to give students a test that will determine their previous knowledge about difference equations and their motivation to learn more about the matter.

First, we decided to give a pretest to both groups of students, economics and engineering, in order to test their previous knowledge and willingness to learn more on the subject outside the regular lessons. Depending on their motivation, we would consider continuation of the study.

The aim of this study is:

1. to investigate if it is possible to introduce the basic concepts of difference equations in a high-quality manner within a very limited time frame, constrained by the number of lectures,
2. to test students’ motivation to learn more on their own by introducing them to some interesting problems encountered in practice.

This research has determined students’ previous knowledge about difference equations, the extent of the knowledge they acquired after two introductory lessons and their motivation to continue learning on their own.

1.1. THE IMPORTANCE OF STUDYING DIFFERENCE EQUATIONS THROUGH OVERVIEW OF SOME APPLICATIONS THEREOF IN ECONOMICS AND TRANSPORT AND TRAFFIC

In this subsection, we provided two examples of the application of difference equations in economics, as well as one example regarding traffic, with the aim of putting additional emphasis on the importance of studying difference equations within mathematics courses. The two examples given here are motivated by the sample examination/practice questions from the LSE program (for more details, see Anthony, 2011). Here, we provided only a brief description of these problems. For more details, please refer to appropriate books and papers given in references.

**Example 1** (Anthony, 2011)

Planners believe that, as a result of a recent government grant scheme, a number of new high technology businesses starting up each year will be \( N \). There are already
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3,000 existing businesses of that kind in the country, but it is expected that each year 5% of those existing at the beginning of the year will fail (shut down). Let $y_t$ denote the number of businesses at the end of a year $t$. Explain why $y_t = 0.95y_{t-1} + N$.

Solve this difference equation for a general $N$. Find a condition for $N$ which will ensure the increase in the number of businesses from year to year.

**Solution:** We can conclude that 95% of the $y_{t-1}$ businesses in operation at the start of year $t$ will survive during that year (5% fail); and since $N$ new businesses have been created, that explains the relation: $y_t = 0.95y_{t-1} + N$. This is a first-order difference equation, with $a = 0.95$ and $b = N$. The time-independent solution is:

$$y^* = \frac{b}{1-a} = \frac{N}{1-0.95} = 20N,$$

and the general solution of this difference equation is:

$$y_t = y^* + (y_0 - y^*)(0.95)^t = 20N + (3000 - 20N)(0.95)^t,$$

where, from the given information, we have that $y_0 = 3000$. To solve the last part of the question, we may notice that since $(0.95)^t$ decreases with $t$, the solution $y_t$ will increase with $t$ if $3000 - 20N(0 \rightarrow N) \leq 150$.

**Example 2** (Anthony, 2011)

Suppose that consumption this year is the average of this year’s income and last year’s consumption, that is

$$C_t = \frac{1}{2}(Y_t + C_{t-1}).$$

(1)

Also, suppose that the relationship between next year’s income and current investment is $Y_{t+1} = kI_t$ for a positive constant $k$. Show that, if the equilibrium condition $Y_t = C_t + I_t$ holds, then

$$Y_t - \frac{k+1}{2}Y_{t-1} + \frac{k}{2}Y_{t-2} = 0.$$

(2)

In the model set up in part (a), suppose that $k = 3$ and that the initial value $Y_0$ is positive. Show that $Y_t$ oscillates with an increasing magnitude.

Find the values of $k$ for which the model set up in part (a) leads to an oscillating $Y_t$, and determine whether or not the oscillations increase in magnitude.
Solution: The first part of the example is solved by direct calculation. In the second part, the emphasis is on obtaining a second-order difference equation. For $k = 3$, the appropriate difference equation is:

$$Y_t - 2Y_{t-1} + \frac{3}{2}Y_{t-2} = 0,$$

and since the auxiliary equation $\left( z^2 - 2z + \frac{3}{2} = 0 \right)$ has no real solutions, the solution of the difference equation (3) is:

$$Y_t = (\sqrt{\frac{3}{2}})^t (Acos\theta t + Bsin\theta t),$$

where $cos\theta = -\frac{2}{\sqrt{\frac{3}{2}}} = \frac{\sqrt{2}}{\sqrt{3}}$. Since $Y_0 > 0$ and $A = Y_0$, we have $A > 0$. Also, $\sqrt{3/2} > 1$, so $Y_t$ oscillates with an increasing magnitude.

We omitted the third part of the task here. Once again, we would like to point out that the purpose of these examples is to show students that real-life economic problems are modeled by relatively simple difference equations, as well as to present them with several examples on how to solve first-order and second-order difference equations.

Finally, we suggest to readers that they see the paper written by Neugart (2004), where the model regarding labor market is presented and described using the system of difference equations. The stability examination in the aforementioned paper is mathematically more demanding and therefore was not suitable for the introduction of difference equations to our students on a basic level.

2. METHOD

The study was conducted at two faculties which are part of the University of Belgrade, Serbia. Altogether, 2 lecturers and 91 students participated in the study, out of which 51 first-year students of the Faculty of Economics and 40 first-year engineering students of the Faculty of Transport and Traffic Engineering. The groups were equivalent with respect to their preliminary education. We organized the research as a survey.

This research consisted of three stages. At the first stage, a 20-minute pretest was organized. This stage of the research was conducted both at the Faculty of Economics and the Faculty of Transport and Traffic Engineering of the University of Belgrade, and had an informative character. It consisted of the pretest given to two groups of students at the Faculty of Economics and one group of students at the Faculty of Transport and Traffic Engineering. Its aim was to evaluate the level of students’ pre-
vious knowledge regarding difference equations, as well as to identify the extent to which the students were interested in improving that knowledge voluntarily outside the regular classes.

The pre and posttests consisted of six questions, out of which the first three questions concerned general knowledge about difference equations, the fourth and the fifth were inspired by examples from practice in the fields of economics and transport and the last question was about students’ motivation to learn more on the subject. The pre and posttests were the same so that we could evaluate their knowledge before and after the short lecture we gave. Each question was scored by a maximum of 3 points. Correct and well-explained answers were given 2 or 3 points (depending on the question). For minor faults we gave 2 points, while for answers with major faults but with a well-motivated idea we gave 1 point. An empty or meaningless answer was scored by 0 points. The students did the pretest before the lecture, and the posttest immediately after the lecture, not knowing the results of the pretest. The results were analyzed by using a statistical program SPSS. The tests were originally in Serbian, but here the authors provided the questions translated in English:

**Question 1:** What is a difference equation?

**Question 2:** The first few members of the sequence are 1, 2, 5, 13, 34, 89, ...

2.1. Determine the seventh member of the sequence.

2.2. Determine $a_n$ in terms of $a_{n-1}$, $a_{n-2}$ ...

**Question 3:**

3.1. If $f_{n+1} = f_n + f_{n-1}$ and if starting values are $f_1 = f_2 = 1$, is it possible to determine $f_6$? If it is possible, find the value of $f_6$.

3.2. Consider the following difference equation $y_{n+2} = y_n$. If a starting value is $y_1 = 3$, is it possible to determine $y_{10}$? If it is possible, find the value of $f_6$.

**Question 4:** A bank client took a loan of €10,000 with an interest rate of 10% per annum.

4.1. How many years will it take the client to repay the loan to the bank if he pays the amount of g=3000 € per year?

4.2. How is the loan to be repaid if the client chooses to pay the amount of g = 1000 € per year to the bank?

**Question 5:** (for the students of the Faculty of Transport and Traffic Engineering)

Every year, one transportation company plans to open X new routes during the season. At the moment, there are 500 such routes. It is expected that, during the season, the company will close 10% of the routes that it held at the beginning of the respective season.

5.1. If $p_n$ denotes the number of existing routes at the end of year n,
define the relation between X and $p_n$, $p_{n-1}$.

5.2. Solve the difference equation given in 5.1.

5.3. What is the condition for X, provided that the number of routes is growing every year?

**Question 5:** *(for the students of the Faculty of Economics)*

One tourist region plans to open X new tourist facilities during each season. At the moment, there are 500 such objects. It is expected that, during the season, it will close 10% of the facilities operating at the beginning of the season.

5.1. If $p_n$ denotes the number of existing facilities at the end of a year n, define the relation between X and $p_n$, $p_{n-1}$.

5.2. Solve the difference equation given in 5.1.

5.3. What is the condition for X, provided that the number of facilities is growing every year?

**Question 6:**

6.1. How interesting do you find the previous assignments? Please grade them by using the scale 1-5.

6.2. Did the previous examples motivate you to learn more about difference equations?

6.3. Do you think that the study of difference equations should be standardized within the Mathematics 1 course? Please answer with YES or NO.

After collecting test results, we decided to continue this study only with students of the Faculty of Economics, since the pretest results of students of the Faculty of Transport and Traffic Engineering showed they did not have enough motivation to learn more about difference equations.

At the second stage, two introductory lectures with the basic concepts of difference equations were given. Students were familiarized with solving first-order difference equations through examples from economic practice. During lectures, we also introduced basic concepts about stability of the solution of difference equations, merely mentioning difference equations of higher order.

Finally, at the third stage, after the lecture, a 20-minute posttest with the same questions as in the pretest was organized, measuring students’ motivation for learning and their learning results.
3. RESULTS

Our results are given in Table 1 and Table 2. In Table 1, we presented the results concerning motivation of students of the Faculty of Economics and the Faculty of Transport and Traffic Engineering to learn about difference equations. First, we tested hypothesis that students from both groups are equally motivated to learn about this subject matter. The comparison of students of these two faculties was done by dividing students into two sample groups: group one – BefE (pretest for economics students) and group two – BefS (pretest for engineering students). This pretest had been given before the lecture, and we obtained the results that are statistically different to a significant extent, which means that the confidence level regarding questions 6.1, 6.2 and 6.1+6.2+6.3 is 5%, i.e. we rejected the hypothesis that two means are equal for all considered questions. For this analysis, we used the unpaired t-test for the two independent samples, where we considered students on the group level, and not on the individual level. We can conclude that the interest in assignments (question 6.1), students’ motivation for learning on their own (question 6.2) and both interest and motivation (questions 6.1+6.2+6.3), differ between students of the Faculty of Economics and the Faculty of Transport and Traffic Engineering, and thus, we continued our investigation only with the students of the Faculty of Economics. The previously mentioned results are given in Table 1.

Table 1: Comparison of motivation between the two groups of students, BefE and BefS

<table>
<thead>
<tr>
<th>Question</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>BefE</td>
<td>47</td>
<td>4.00</td>
<td>0.014*</td>
</tr>
<tr>
<td></td>
<td>BefS</td>
<td>40</td>
<td>2.95</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>BefE</td>
<td>47</td>
<td>0.88</td>
<td>0.049*</td>
</tr>
<tr>
<td></td>
<td>BefS</td>
<td>40</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>6.1+6.2+6.3</td>
<td>BefE</td>
<td>47</td>
<td>5.65</td>
<td>0.016*</td>
</tr>
<tr>
<td></td>
<td>BefS</td>
<td>40</td>
<td>4.10</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ calculations

p-value* < α = 0.005 represents a significant difference in means

Since we decided to continue with the students with higher motivation, we chose the group of economics students and gave them a lecture which covered two lessons. At this level of research, we divided all students of the Faculty of Economics into two sample groups: BefE and AftrE, which were actually the same, only in BefE we collected the results of the test before the lecture and in AftrE after the lecture. The test questions were the same before and after the lecture. Moreover, we considered students on the group level, not individually, and we used an unpaired t-test for two independent samples. We obtained the following results: there is a statistically significant difference in means before and after the lecture with the confidence level
of 5%, for all the questions concerning motivation (questions 6.1+6.2+6.3), knowledge that students acquired (questions 4+5) and all the questions together (questions 1+2+3+4+5, without the subjective question 6), i.e. we rejected the hypothesis that two means were equal for these questions. Also, the results in Table 2 showed that there was no significant difference in interest (question 6.1) and motivation (question 6.2) (if we consider these two questions separately) before and after the given lecture, but if we consider interest and motivation together, as we already mentioned, there is a significant difference between the means before and after the lecture. In Table 2 we can also see that there is no statistically significant difference in means regarding students’ logic (questions 2+3) before and after the lecture, which we actually expected and confirmed.

Table 2: Comparison between the two groups of students – BefE and AftrE

<table>
<thead>
<tr>
<th>Question</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.88</td>
<td>0.163</td>
</tr>
<tr>
<td></td>
<td>AftrE</td>
<td>42</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>BefE</td>
<td>47</td>
<td>4.00</td>
<td>0.090</td>
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<tr>
<td></td>
<td>AftrE</td>
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<td>4.58</td>
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<tr>
<td>6.1+6.2+6.3</td>
<td>BefE</td>
<td>47</td>
<td>5.65</td>
<td>0.043*</td>
</tr>
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<td>AftrE</td>
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<td></td>
</tr>
<tr>
<td>2+3</td>
<td>BefE</td>
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<tr>
<td>4+5</td>
<td>BefE</td>
<td>51</td>
<td>0.48</td>
<td>0.007*</td>
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<tr>
<td></td>
<td>AftrE</td>
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<td>2.67</td>
<td></td>
</tr>
<tr>
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<td>3.29</td>
<td>0.028*</td>
</tr>
<tr>
<td></td>
<td>AftrE</td>
<td>42</td>
<td>6.33</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ calculations.

p-value* < α = 0.005 represents a significant difference in means

Based on this investigation and results, we can conclude that there are sufficient reasons to say that even under the limited conditions (by limited we refer to the limited number of lessons at both considered faculties), it makes sense to teach the subject of difference equations. The importance of this topic also goes in favor of such a conclusion. Teaching students about some basic elements of difference equations might be enough to motivate them to learn more about the subject, if we introduce the topic through interesting examples from practice.
4. CONCLUSION

This short study helped us confirm our beliefs that students would be interested in learning more about difference equations even outside regular classes, especially if they are motivated by examples from practice, as it is the case with the supply and demand model and interest rate for students of economics. Test results have shown that a revision of the curriculum is essential, because even within a very limited time frame of 2 school classes, it is possible to introduce students to basic elements of difference equations, and based on that, students should be able to learn more on their own. We were somewhat surprised by the pretest results for engineers, because they showed low motivation for learning more about the subject. However, we may find explanation for those results in the problems presented in tests, which address economic practice more. Also, one of the possible explanations is the fact that we tested both groups of students in their first semester, yet engineering students start mathematics courses in the third semester and learn about differential equations in the second semester of the course, while economics students have the mathematics course which includes differential equations in the first semester. Thus, for future research, we plan to do a study with engineers in the second semester and give them more examples from practical experience in the field of traffic.

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