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GROWTH AND INDUSTRIAL POLICY DURING TRANSITION

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ABSTRACT: *After twenty-five years of economic transition economic performance varies considerably in transition countries, while in most cases current outcomes show that the desired effects have not been achieved. In this paper we elaborate on why industrial policy has been a key missing element in the transition and has greatly contributed to the unexpectedly small and slow pace of economic recovery. After discussing the achieved level of economic development we undertake an empirical analysis in order to define the role of several important factors of growth, as seen at the beginning of transition (reform progress, macroeconomic stabilisation, initial conditions) and those that attracted particular attention during the global crisis (industrial/manufacturing output, exports). The analysis shows that the growth model in transition economies has*

altered both over time and in relation to the progress of transition reforms. The most important change concerns the share of industrial output in GDP, which is found to be one of the most important factors of growth after the initial phase of reform. These results suggest that transition economies should implement industrial policy measures as an integral part of their reform strategy instead of just speeding up reforms as the key (if not the only) element of government policy. Based on these results, we explore what would be a viable and proper industrial policy in transition countries, particularly what should be done in current conditions after the damaging effects of the recurrent global recession, and make some policy suggestions.

KEY WORDS: *Transition economies, Industrial policy, Growth, Growth model*

JEL CLASSIFICATION: P20, P27, O11, O25

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1. INTRODUCTION

During the past twenty-five years of economic transition to a market economy a great amount of energy has been invested in attempting to establish a developed and modern market system and to gain from the systemic changes, predominantly in terms of better and more efficient economic performance. However, the results achieved in transition countries vary, and in most cases the present economic outcomes give no assurance that the desired effects have been achieved. Indeed, despite earlier warnings that transition schemes in some respects are lacking, it has only been during the recent global crisis that terms like ‘new growth model’, ‘institutional development’, ‘industrial policy’, and ‘new reforms’ have entered into standard debates on transition and its aftermath.

In this paper we shall try to elaborate why industrial policy has been a key missing element of transition, which has contributed to the unexpectedly small and slow pace of recovery in transition economies. Namely, transition was seen as a process that should lead to structural changes, by means of market liberalisation and privatisation in the first place and was expected to foster economic performance. There is no doubt that such a move was inevitable in order to improve economies that were constrained by an inert and petrified economic system. However, the question is whether these changes were sufficient, or whether other policies were also needed to launch steady economic growth and more efficient development. In addition, there is the question of whether this change alone was capable of bringing about the desired structural adjustment of economies which differed considerably in their inherited economic conditions, available resources, and historical legacies.

We explore whether such a policy of economic liberalisation and privatisation, not supplemented by any proactive policies, contributed to the shortcomings identified during the recent economic crises. In other words, what was its role in establishing a model of growth based on strong import demand, an excessive increase in production of non-tradable goods and services at the cost of tradable output, and other weaknesses of transition economies that emerged recently under changed global circumstances? Through the analysis of these issues we shall demonstrate that reforms implemented in transition economies should be accompanied by a specific industrial policy for each country, which tracks economic development according to the specific conditions of the given country in line with a sustainable pattern of growth. Moreover, we shall try to identify when is the right moment for defining and implementing an industrial policy within the reform process and to show why industrial output, particularly

manufacturing, should be the main engine of growth in transition economies in the longer run.

Our analysis will cover primarily the first two decades of transition, 1990-2009, supplemented by some more recent data. We have chosen this period for two reasons. Firstly, it covers both the initial period of transition and a part of the more developed phase that took place in relatively stable economic global circumstances. It also covers the first two years of the global economic crisis, thus including the reaction of transition economies to the changed environment. Secondly, we chose this period for methodological reasons: there is only one unique database, compiled by the EBRD until 2009, which covers the period in a methodologically coherent way and thus can be used for this type of analysis. For the more recent period we sometimes use other sources of data.

The paper is organised in seven sections. After the introduction (section 1) we present data on the economic performance of transition economies in the period 1990-2013 and highlight the diminishing share of industrial output (section 2). The paper continues with a brief discussion of the neglected role of industrial policy during transition and the changes in the understanding of its importance that occurred during the global crisis and in the following years (section 3). In section 4 we present empirical evidence considering growth-pattern changes in transition economies over time, and in section 5 we present some additional empirical evidence concerning growth-model alterations in regard to reform progress, including specifically those that took place before and after the crisis. The conducted panel analyses prove the significant and increasing impact of industrial and/or tradable output as a factor of growth in these economies. Consequently, we find that some sort of industrial policy is necessary and discuss what type of industrial policy would be appropriate for transition economies (section 6). The last part (section 7) presents our major conclusions.

2. ECONOMIC PERFORMANCE OF TRANSITION ECONOMIES

From the very beginning of transition it was expected that the East European countries would go through a recession, but the expected length of the recession was optimistically short. What was predicted at that time was a *U* or *J* output curve, as an upward-switching phenomenon in the short run. However, before 1999 only a few economies reached their pre-transition level of GDP. Moreover, by the end of the second decade of transition (just before the global crisis) the attained economic performance of transition countries was far from satisfactory.

Their performance considerably weakened during the recession that flooded the global economy in 2008. In the data below (Table 1) we show some indices of GDP per capita growth until 2007 and 2008 (with calculated average annual growth rates), and of GDP growth after that period. In this way we separate the ‘good’ period – as expected on the eve of transition – from the subsequent unexpected turmoil. For comparison’s sake, and also in order to consider the reforms’ success as a possible factor of growth, in the last column we add the sum of 9 EBRD transition indicators (TI) in 2007.

Table 1. Transition economies: GDP growth and reforms

Country	Index real GDP 2007 (1989 =100)*	Index real GDP 2008 (1989 =100)*	Average annual growth rate (1989-2008)	GDP annual growth rates (2009-13)**					Index GDP 2013 (2008 =100)	EBRD TI 2007 ^a
				2009	2010	2011	2012	2013		
Albania	152	163	2.674	3.3	3.5	3.1	1.6	1.5	114	26.66
Armenia	143	153	2.263	-14.1	2.1	4.6	7.1	2.5	101	27.99
Azerbaijan	160	177	3.051	9.3	5.0	0.1	2.2	5.5	124	23.67
Belarus	146	161	2.538	0.2	7.7	5.3	1.7	0.9	117	16.66
Bosnia & Herz.	79	84	-0.091	-2.9	0.7	1.3	-0.5	0.8	99.5	24.34
Bulgaria	107	114	0.069	-5.5	0.4	1.7	0.8	0.7	98	31.34
Croatia	111	111	0.055	-6.9	-1.4	0.0	-2.0	-0.7	89	31.66
Czech R***	139	142	1.863	-4.5	2.5	1.8	-1.0	...	97	34.32
Estonia	150	147	2.048	-14.1	3.3	8.3	3.9	1.2	101	35.33
FYR Macedonia	96	102	0.010	-0.9	2.9	2.9	-0.3	3.0	108	28.32
Georgia	60	61	-2.568	-3.8	6.3	7.0	6.2	2.5	119	27.66
Hungary	135	138	1.710	-6.8	1.3	1.6	-1.7	1.2	93.5	35.33
Kazakhstan	136	141	1.825	1.2	7.3	7.5	5.0	6.0	130	27.01
Kyrgyz R	95	102	0.010	2.9	-0.5	5.7	-0.9	10.5	118.5	26.33
Latvia	124	118	0.087	-17.7	-0.9	5.5	5.2	4.4	99	32.66
Lithuania	118	120	0.096	-14.8	1.4	5.9	3.7	2.8	96	33.32
Moldova	51	55	-3.098	-6.0	7.1	6.4	-0.7	8.0	115	26.66
Mongolia	153	167	2.736	-1.3	6.4	17.5	12.3	13.0	157	26.99
Montenegro	85	92	-0.044	-5.7	2.5	3.2	-0.5	1.5	101	25.01
Poland	169	178	3.081	1.6	3.9	4.3	1.9	1.3	114	33.99
Romania	120	128	1.308	-6.6	-1.7	2.5	0.7	2.5	97	30.67
Russia	102	108	0.041	-7.8	4.3	4.3	3.4	1.3	105	27.33
Serbia	68	72	-1.714	-3.5	1.0	1.6	-1.7	2.2	99.5	24.67
Slovak R	154	164	2.638	-4.9	4.2	3.3	1.8	0.9	105	33.66
Slovenia	151	156	2.368	-7.8	1.2	0.6	-2.5	-1.7	90	30.33
Tajikistan	56	61	-2.568	3.9	6.5	7.4	7.5	7.4	137	21.33
Turkmenistan	204	226	4.385	6.1	9.2	14.7	11.1	10.2	163	11.67
Ukraine	68	70	-1.860	-14.5	4.1	5.2	0.2	-0.8	93	27.00
Uzbekistan	150	163	2.605	8.1	8.5	8.3	8.2	7.7	148	19.35

Sources: ⁺ data from EBRD (2008); ^{*} data from EBRD, 2009; ^{**} growth rates 2009-11 from EBRD (2012) and 2012-13 from EBRD (2014); ^{***} growth rates 2009-12 from World Bank (2014); ^a data based on EBRD (2009) from: Cerovic and Nojkovic (2011)

The data show that only 11 out of 29 transition countries had an average annual growth rate of GDP per capita higher than 2% over the 1989-2008 period. Within this group we find three extreme transition laggards (Belarus, Turkmenistan, and Uzbekistan) that made no substantial reforms, and two other countries below the average level of reform, which, however, were extremely undeveloped at the beginning of transition (Albania and Mongolia). Furthermore, we find 7 countries that had negative average growth rates of GDP. Another 7 countries had very modest positive rates (below 1%), some of which were rapid reformers and even EU members, and 4 economies that had an annual GDP growth rate slightly above-average (between 1% and 2%). On the whole, it seems that all countries exhibit specific reasons for their economic performance that cannot be easily associated with their reform progress (represented by the average EBRD Transition Indicator in the last column of the table)¹.

During the years of the recent global economic crisis the transition economies again show very different results, which are frequently related to achieved performance in the pre-crisis period. For example, 10 out of the 11 countries with the highest rates of growth in the period preceding the crisis continued to grow during the crisis years, despite their different rates of progress in reforms (Slovenia was the only country in the group that exhibited negative growth). The other 11 countries were not able to recover and remained below the development level reached in the pre-crisis period (Bosnia and Herzegovina, Croatia, Serbia, and Ukraine even remained below their 1989 GDP level). There are 8 countries that achieved some positive growth during the crisis years but 4 of them (Georgia, Moldova, Montenegro, and Tajikistan) remained below their 1989 level of per capita GDP. This rather dismal picture encouraged us to analyse the reasons behind this sluggish development of transition economies².

Before carrying out more extensive analysis we explored the structural changes that occurred during transition regarding shifts in major economic sectors. At the beginning of transition it was widely believed that most ex-socialist economies had an excessive share of manufacturing output (as well as over-urbanisation). The problem was studied in detail, particularly in a set of papers presented by de

1 There is an insignificant correlation between EBRD 2007 and the GDP index in 2008: $r = -0.2034$, $t = -0.9965$ (prob. 0.3294); when we exclude Turkmenistan for its excessively high growth and poor reforms the coefficient stays insignificant and is around zero: $r = 0.099$.

2 We discuss here a narrow outcome of transition measured by growth of GDP, but this dismal picture would probably be much worse if extended to more subtle analysis including well-being and happiness of the population, as indeed is shown by Gruen and Clasen (2012) and Easterlin (2009).

Melo and colleagues (de Melo et al., 1997), who calculated a predicted share of industrial output for each country in regard to its development level and other characteristics. In Table 2 below we present the share of industrial output in GDP for the years 1990, 2000, and 2007, thus covering the pre-crisis period (thereafter certain changes occurred, in line with some ideas of the new growth model that recognised industrial output as an important factor of growth). Further on we present the data on industrial output share as calculated by de Melo on the eve of transition, as well as the predicted shares that correspond to the development level of each country. Finally, in the last two columns we calculate the percentage change that should be made in the share of industrial output according to de Melo, and the actual percentage change that occurred during 1990-2007. The data cover 25 transition economies for which we were able to obtain fairly comparable data.

Table 2. Transition economies: industrial output share in GDP (1990-2007; in %)

Country ²	Industry /GDP 1990	Industry /GDP 2000	Industry /GDP 2007	Industry /GDP de Melo	Ind/GDP de Melo predicted	Ind/GDP: predicted change	Ind/GDP: factual change
Albania	39.80	7.80	10.30	37	34	-9.1	-74.1
Armenia (1995)	24.30	25.20	14.97	55	35	-36.4	-38.4
Azerbaijan	22.02	36.01	59.10	44	36	-18.2	168.4
Belarus	37.90	31.00	31.60	49	37	-24.5	-16.6
Bulgaria (1991)	39.80	25.80	26.10**	59	36	-40	-34.4
Croatia (1995)	21.46	19.62	17.59	35	34	-2.9	-18
Czech R.	36.70	36.04	42.00	58	37	-36.2	14.4
Estonia (1993)	28.32	24.61	26.38	44	34	-22.7	-6.9
FYR Macedonia	32.27	18.10	21.90	43	34	-20.9	-32.1
Georgia (1996)	20.30	17.30	14.20	43	35	-18.6	-30
Hungary (1991)	21.03	27.08	25.62	36	37	2.8	21.8
Kazakhstan (1992)	30.09	25.17	22.44	34	38	11.8	-25.4
Kyrgyz R (1991)	26.35	25.00	13.11	40	34	-15	-50.2
Latvia	35.10	21.10	20.55	45	35	-22.2	-41.5
Lithuania (1991)	55.74	26.44	29.21	45	35	-22.2	-47.6
Moldova (1995)	28.50	19.02	19.09	37	35	-5.4	-33
Poland	44.90	31.72	33.72	52	39	-25	-24.9
Romania	49.95	30.87	33.43	59	37	-37.3	-33.1
Russia (1991)	38.20	30.80*	31.80	48	41	-14.6	-16.8
Slovak R (1992)	35.17	26.00	27.88	59	36	-39	-20.7
Slovenia	33.43	25.60	27.88	44	39	-11.4	-16.6
Tajikistan	37.61	45.80	23.96	34	34	0	-36.3
Turkmenistan	16.00	45.80	38.60***	34	35	2.9	141
Ukraine	34.70	26.70	27.52	44	40	-9.1	-20.7
Uzbekistan	22.66	14.20	25.00	33	37	12.1	10.3

²In brackets the first observed year; * 1999; ** 2005; ***2004

Sources by columns: 1, 2, 3, 4 from EBRD (2010); 5, 6 from de Melo et al. (1997, Appendix, Table 1)

It is remarkable that in many cases the industrial output share has shrunk even more than de Melo's calculations suggested. Bearing in mind that in some countries a decrease in industrial output occurred on an even larger scale, as it started earlier than we could observe using available data, it is evident that during transition there was a profound decline in manufacturing. This raises the question of whether this was necessary and of which policies contributed to this trend. Our data also suggest a rather peculiar link between reform advancement, industrial output, and growth: a simple correlation analysis shows a positive relationship between higher growth and smaller industrial decline (or higher increase), and a negative relationship between reforms and GDP share of manufacturing³.

Consequent to these findings we shall try to find out whether the lack of any industrial policy played a part in such outcomes. Or, put the other way round, we suggest that transition schemes focusing predominantly on liberalisation and privatisation led to this development, together with FDI that mostly targeted services. It has already been broadly acknowledged that these policies were dominant before the global crisis. The idea of a new growth model based on a higher share of tangible products and an increase in industrial output emerged only after the first effects of the globally troubled economy had been felt in transition countries. Therefore we shall also analyse whether industrial policy should have been introduced earlier in transition economies.

3. INDUSTRIAL POLICY AND TRANSITION

Industrial policy was not considered a necessary component of economic policies in Eastern Europe during the early years of transition. This is understandable to a certain extent, considering that in most countries the main priorities at that time were economic liberalisation, macroeconomic stabilisation, and privatisation, in line with the recommendations of the so-called 'Washington consensus'. Moreover, considering that before 1989 all socialist countries generally had an oversized industrial sector and few services a significant decrease in the share of industry along with the development and expansion of services was only to

³ Thus for example, the correlation coefficient for the factual percentage change of industrial output share and GDP index in 2008 is $r=0.5309$ ($t=3.005$; $p=0.000$), while if correlated with the EBRD assessments the coefficient becomes negative: $r=-0.4201$ ($t=-2.2199$; $p=0.036$). There is also a positive correlation between the share of industrial output in GDP in 2007 and the GDP index ($r=0.4537$; $t=2.4415$; $p=0.0227$) against an already reported insignificant (yet negative) correlation between reforms and GDP index.

be expected – as indeed happened in most transition countries in the early years of transition. It is only in the second half of the 1990s, when the first critical views of policies implemented during the early phase of transition appeared, that industrial policy emerged on the agenda.

Among the few scholars that argued in favour of an industrial policy at an early stage were Kolodko and Nuti (1997), who proposed a ‘post-Washington consensus’ (mainly based on the Polish experience), which placed emphasis on a new role for the state and active government policies - not just less government but better government. In particular it pointed out the importance of industrial policy in promoting investment in certain sectors, improving access to credit for small and medium enterprises, encouraging innovation, and introducing and protecting standards. They also clearly indicated the risks of the absence of industrial policy: if a country has no industrial policy, its industrial policy will simply be the residual of other policies, such as highly liberalized foreign trade, high interests rates, and an appreciating real exchange rate, which can have many negative implications (Kolodko and Nuti, 1997, p. 38). If tariffs are lowered excessively such a “residual industrial policy” can be detrimental to industrial sectors requiring protection and can prevent new investment and modernization of key industrial sectors (Uvalic, 2010, p. 257).

Industrial policy primarily gained ground as a policy prescription in transition economies in the 2000s, in part due to the EU accession process of the ten acceding states. Particularly with the adoption of the Lisbon Strategy in 2000 and its emphasis on ‘horizontal’ measures of industrial policy to sustain the implementation of the knowledge-based EU economy and society, similar policies were advocated for the future EU member states from Central and Eastern Europe and the Baltics. Although the various EU member states have understood and applied industrial policy differently, it has increasingly been taken to represent general measures offered to all enterprises without discrimination that strengthen enterprise competitiveness, including a supportive business environment, incentives for investing in R&D, innovation, support of small and medium sized enterprises, services for the creation of enterprise networks and technology parks, and incentives for cooperation between research institutions and industry (Bianchi and Labory, 2009).

Under the impact of the global economic crisis, however, there has been a substantial rethinking of the EU approach to industrial policy. The European Commission has recently stressed that industry must be placed at the centre of EU strategies if Europe is to remain a global economic leader. In the Communication

on “An integrated industrial policy for the globalisation era”, a flagship initiative of the Europe 2020 strategy, a strategy is set out that aims to boost growth and jobs by maintaining and supporting a strong, diversified, and competitive industrial base in Europe, offering well-paid jobs while becoming less carbon-intensive (European Commission, 2010). In addition to the horizontal measures, the Commission now also emphasizes the sector-specific dimension of industrial policy, identifying specific sectors for development at the European level such as space technology, clean and energy-efficient motor vehicles, transport equipment, healthcare, environmental goods, energy supply industries, security industries, chemicals, engineering, agro-food, and business services (Bartlett, 2011; European Commission, 2010). EU industrial policy now combines the horizontal approach, which remains relevant regarding national industrial policies so as to prevent unfair competition within the EU, with support for industrial policy cooperation among EU countries in the designated target industries, allowing the specific characteristics of the various sectors to be taken into account (Bartlett, 2011, p. 18).

In the meantime, the severity of the economic crisis, the unexpected prolongation of the recession in a number of EU countries, and the uncertain prospects of a permanent economic recovery have revived the debate about the manufacturing industry and its importance for economic growth and international competitiveness (see Veugelers, ed., 2013). Despite the declining share of manufacturing in EU GDP and employment, manufacturing is widely acknowledged as the engine of the modern economy and a prerequisite for an innovative and fast-growing economy. The European Commission’s Strategy for the Re-industrialization of Europe, launched in 2012, aims at increasing the share of manufacturing in the EU economy from 15% to 20% of GDP by 2020. The EU Commission’s recent Competitiveness Report proposes “knowledge-driven reindustrialization” (European Commission, 2013), while the European Commission’s Vice President, Antonio Tajani, has argued for an “Industrial Compact” (Tajani, 2013) (see Damiani and Uvalic, 2014).

As Eastern Europe is one of the regions most severely hit by the global economic crisis a number of recent studies have critically examined the growth model implemented in the post-communist countries over the last twenty years (see Cerovic et al. 2012). The ongoing debate on the New Growth Model in Eastern Europe has indicated a loss of confidence in the prescriptions of neo-liberal economic thought which prescribed the withdrawal of the state from active intervention in the economy to promote industrial development (Bartlett, 2011). Despite all the criticism, the current debate on the New Growth Model has not

produced many innovative ideas about alternative strategies of growth in Eastern Europe. Most recent studies suggest the need to “reorient”, “redirect” or “reinvent” the growth model in Eastern Europe, but remain vague about its contents. To give an example, Berglöf (2010) rightly stresses the need to remove obstacles to further export growth in Eastern Europe since past export growth drivers are fading, but recommends standard measures such as reducing non-tariff barriers, increasing customs efficiency, fighting corruption, and enforcing the rule of law.

4. CHANGES IN GROWTH PATTERNS OVER TIME: EMPIRICAL EVIDENCE

Today there is a large set of empirical work investigating growth patterns and the impact of various factors on economic performance in transition economies (for a comprehensive survey see Babecky and Havranek, 2014). Within the literature there are several papers that indicate certain changes in growth patterns, depending on the period observed. Some authors find that growth patterns between the first and second decades of transition differ (e.g., Falcetti et al. 2004, 2006; Dragutinovic Mitrovic and Ivancev, 2010). In order to test the impact of industry (manufacturing) during transition, we shall conduct panel analyses of 25 transition economies and divide the 1991-2009 period into two phases.

We shall analyse both the entire sample and, separately, the 1991-2000 period when the majority of these economies were implementing the first generation of reforms, predominantly directed towards liberalisation, privatisation, and macroeconomic stabilisation. Further on we shall also separately analyse the subsequent 2001-09 period, when basic reforms had been introduced and some deeper reforms were fostered. However, we shall also look at the 2001-07 period preceding the crisis in order to identify changes that might appear when critical years are included in the analysis.

For methodological reasons we shall use two baseline panel data models. The first model will estimate the impact on growth of the several variables that are most frequently present in papers on transition, such as reforms, initial conditions, and macroeconomic stability, as well as those that were stressed only recently, such as industrial output share and export orientation. The second model includes two additional variables usually seen as important parts of the policy of transition economies: the openness of the country and the size of government (the share of government expenditure in GDP). Accordingly, the first baseline model is defined as:

$$GR_{i,t} = f(\text{inflation}_{i,t-1}, \text{ICI}^*\text{trend}_i, \text{EBRD index}_{i,t-1}, \text{industry}_i, \text{net exports}_i) \quad (1)$$

The dependent variable $GR_{i,t}$ is the growth rate of country i in year t . The independent variables are: (a) *inflation* - stands for inflation rates (logarithm values) lagged for one year to allow for postponed effects; (b) *ICI*trend* - represents initial conditions of country i and is defined in the following way: *ICI* is a composite index, which is the first principal component derived from common factor analysis of relevant variables but highly correlated (initial values from 1989) multiplied with trend in order to be able to estimate fixed effects panel specification; (c) *EBRD index* - represents reform progress of country i as an average of nine EBRD transition indicators, also lagged for one year to capture prolonged effects of reforms⁴; (d) *industry* - stands for industrial output share in GDP (in %) to involve the impact on growth of sector changes in economy i during transition; and (e) *net exports* is the ratio of net exports to GDP (in %) in order to estimate how much the trade orientation of country i affects its growth rate.

The second baseline model is defined as follows:

$$GR_{i,t} = f(\text{inflation}_{i,t-1}, \text{ICI}^*\text{trend}_i, \text{EBRD index}_{i,t-1}, \text{industry}_i, \text{openness}_i, \text{net exports}_i, \text{government expenditure}_i) \quad (2)$$

The two independent variables that have been added to the first model are: (a) *openness* - represented by the sum of imports and exports to GDP ratio of country i (in %) and (b) *government expenditure* - representing the size of government in country i as the ratio of this expenditure to GDP (in %).

The estimation results of two-way fixed effects specification⁵ (time and country-specific fixed effects) are presented in Table 3.

⁴ Data from EBRD (2010)

⁵ Results of F-test reported in the Tables show that we need both, country and time fixed effects. Only exceptions are models for period 2001-2007, which are estimated as country fixed effect. Results for heteroskedasticity, skewness and kurtosis tests are reported in the Tables. More detailed diagnostic tests are available upon request.

Table 3

(a) Dependent variable: growth rate (1991-2009) and (1991-2000)

Variable	period: 1991-2009		period: 1991-2009		period: 1991-2000		period: 1991-2000	
Intercept	-6.208	(4.696)	-1.529	(4.897)	9.250	(5.790)	14.285	** (6.298)
Inflation (log, lagged)	-2.517	*** (0.558)	-2.432	*** (0.541)	-2.581	*** (0.673)	-2.111	*** (0.825)
IC1*trend	0.385	*** (0.050)	0.442	*** (0.060)	0.699	*** (0.155)	0.817	** (0.153)
EBRD index (lagged)	2.731	** (1.338)	3.965	*** (0.860)	3.450	* (1.083)	4.763	*** (1.973)
Industry	-0.005	(0.056)	0.030	(0.062)	-0.263	*** (0.093)	-0.250	*** (0.081)
Net exports	0.029	(0.026)	0.026	(0.029)	0.009	(0.038)	0.011	(0.044)
Openness			0.002	(0.013)			0.009	(0.019)
Gov expenditure			-0.225	*** (0.048)			-0.244	*** (0.073)
R ²	0.642		0.659		0.628		0.681	
F-stat (prob)	13.870	(0.000)	13.700	(0.000)	7.610	(0.000)	8.260	(0.000)
N	25		25		25		25	
T	19		19		10		10	
F-stat (Wald-test of time FE)	3.23	(0.000)	6.00	(0.000)	1.94	(0.043)	2.37	(0.012)
IM-test of heteroskedasticity	420.00	(0.477)	405.00	(0.477)	216.00	(0.468)	201.00	(0.467)
IM test (total)	487.35	(0.259)	486.12	(0.151)	262.64	(0.358)	246.81	(0.402)

(b) Dependent variable: growth rate (2001-2009 and 2001-2007)

Variable	period: 2001-2009		period: 2001-2009		period: 2001-2007		period: 2001-2007	
Intercept	-0.068	(12.856)	14.660	(8.420)	-21.964	*** (5.460)	-19.035	*** (5.702)
Inflation (log, lagged)	-0.773	(0.815)	-1.171	* (0.717)	-0.084	(0.561)	-0.395	(0.548)
IC1*trend	-0.124	(0.094)	-0.014	(0.121)	0.064	(0.084)	0.141	(0.088)
EBRD index (lagged)	-1.868	(4.602)	-1.176	(2.68)	9.016	*** (1.893)	7.746	*** (1.861)
Industry	0.626	*** (0.111)	0.567	*** (0.125)	0.445	*** (0.089)	0.366	*** (0.089)
Net exports	-0.119	*** (0.045)	-0.122	*** (0.049)	0.036	(0.038)	0.048	(0.037)
Openness			0.054	*** (0.025)			0.058	*** (0.016)
Gov expenditure			-0.067	(0.074)			0.027	(0.046)
R ²	0.759		0.640		0.799		0.816	
F-stat (prob)	14.15	(0.000)	9.870	(0.000)	19.030	(0.000)	19.610	(0.000)
N	25		25		25		25	
T	9		9		7		7	
F-stat (Wald-test of time FE)	15.20	(0.000)	11.59	(0.000)	1.24	(0.290)	0.96	(0.452)
IM-test of heteroskedasticity	204.00	(0.467)	204.00	(0.467)	159.68	(0.515)	169.00	(0.464)
IM test (total)	257.69	(0.220)	255.57	(0.277)	212.18	(0.140)	229.2	(0.077)

Note: Standard errors are in parentheses. Significant levels are indicated as 1% (***) , 5% (**) and 10% (*).

Apart from some expected results for the full sample – positive impact of reforms, impact of inherited conditions, and negative impact of macroeconomic distortions such as high inflation and excessive share of government expenditure – the most remarkable changes in the estimation results are those that differently weight certain factors of growth in the model. First, this refers to a change in

regard to reform advancement. While reform progress appears as a factor positively related to growth in the full sample, and in sub-samples for the periods 1991-2000 and 2001-2007, in the period 2000-2009 it becomes insignificant, yet with negative coefficients.

The second and even more remarkable change concerns the industrial output share. Though insignificant for the full sample, in the second decade of transition it appears as an important factor of growth, particularly when the period of crisis has been included in the analysis (increased coefficients). However, in the first decade industrial output appears as a factor with a significant but adverse impact on growth (negative sign). This effect could be the result of economic structural adjustments aimed at countering over-industrialisation in transition countries. Later on, increased industrial output seems to become highly important for improving economic performance.

Nevertheless, the question remains whether such straightforward conclusions can be drawn, bearing in mind the different initial conditions and historical legacies of the various transition countries. Moreover, the countries observed had different policies regarding the speed and general scope of reform implementation. Checking for these differences, we estimated our models for two groups of countries: (a) those that were part of the former USSR (excluding the Baltic countries) and (b) Central and South Eastern European countries (including the Baltic states; henceforth CSEB).

Our panel estimation results show that there is one major difference between these groups that substantially influences their patterns of growth. Although in both groups the growth patterns are characterised by the positive effects of reforms over the entire 1991-2009 period (though insignificant for ex-USSR) and the significant and positive impact of lower inflation and lower government expenditure, the ex-USSR group exhibits a significant and positive impact of industrial output share, whereas the economic growth of the other (CSEB) group is based on de-industrialisation and negative net exports⁶ (table A1, panels a and b, in the Appendix). Does this mean that the ex-Soviet group conducted a policy that relied on local production, while the European group of countries relied on import-led growth? As will be explained further on, it is too early to conclude anything concerning this issue.

⁶ A similar difference was found in analysing groups of resource-rich countries and countries with poor natural resources: in the first group industrial output share positively affects growth while the second group's growth is followed by negative net exports (table A2, panels a and b, in the Appendix).

Rethinking the obtained results, we found that these two groups also differ in regard to their reform advancement (according to Table 1, in 2007 the average sum of nine EBRD indices was 31.7 for the CSEB group and 23.3 for the ex-USSR group). However, this difference is not only linked with the reform policies pursued by these countries. According to the results in Cerovic and Nojkovic (2011), when transition reform progress is considered as an endogenous phenomenon⁷ it appears that a distinctive majority of countries in both groups achieved the level of reform advancement appropriate to their specific conditions (7 out of 10 ex-Soviet countries and 7 out of 13 CSEB transition economies, while another 4 countries even surpassed the expected progress)⁸.

Under these circumstances we conclude that the transition economies in our full sample of countries are comparable. Moreover, considering the fact that the proposed transition schemes were, in general, almost identical in all these economies regardless of their specific conditions, we find it useful to explore whether the change in leading factors of growth over time – as identified earlier – is a matter of time only, or whether the reform progress itself incites growth-model alteration.

5. REFORM-RELATED CHANGES IN GROWTH PATTERN: EMPIRICAL EVIDENCE

In contrast to the previous section, where we found certain changes in the growth models applied in transition economies occurring over time, in this section we shall try to identify whether and how reforms implemented during transition could affect growth-model alterations. In searching for specific reform-related breaks that indicate a change in the pattern of growth, we shall re-estimate our baseline models (1) and (2) from the previous section. The analysis is inspired by Fidrmuc and Tichit (2007, 2009), but it also relies on Cerovic and Nojkovic (2009) and Cerovic et al. (2012). It is based on pooled panel estimates and application of a dynamic algorithm (devised by Bai and Perron, 1998) to tests of significance,

7 It was shown that transition progress significantly depends on pre-transition level of GDP per capita, pre-transition reforms, number of years under communism, and macroeconomic distortions measured by black market exchange rate premium.

8 There are only five countries that fall below their achievable level of transition progress: in the ex-USSR group there are three transition laggards (30%) while in the CSEB group there are only two (15%). As already mentioned, there are four countries in the CSEB group (31%) that surpass the expected level of reform progress; i.e., they have over-accelerated their transition process beyond their actual capabilities.

in order to determine the a priori unknown number of breaks. In doing so we shall look for the breaks that are reform-related; that is, the break points that indicate growth-model alterations in regard to achieved transition progress (as measured by the EBRD indices). It should be pointed out that a pooled panel is characterised by all constant parameters across the countries observed and no universal effects across time. Thus, it resembles a simple regression result and does not recognise the specificity of countries, and is also time-invariant across the sample. Apart from their statistical relevance to the problem we analyse, these characteristics are in line with the uniformity of transition schemes that are recommended for all countries regardless of the variety of specific conditions regarding development levels, historical legacies, etc.

We first estimate model (1) and the results are reported in Table 4.

Table 4. Growth models and structural breaks related to reform progress, dependent variable: growth rate (model 1: 1991-2009)

A: Index range	Full sample (A1)		(Min; 2.33) (A2)		(2.33; 2.92) (A3)		(2.92; Max) (A4)	
Intercept	2.441	(2.448)	-11.444 **	(5.414)	-2.382	(8.965)	13.383 ***	(4.528)
Inflation (log, lagged)	-4.732 ***	(0.520)	-6.434 ***	(0.891)	-4.574 ***	(0.840)	-2.862 ***	(0.903)
IC1	2.004 ***	(0.353)	3.049 ***	(0.832)	1.303 **	(0.557)	0.796 *	(0.424)
EBRD index (lagged)	2.011 ***	(0.599)	11.662 ***	(1.946)	3.185	(3.025)	-3.862 ***	(1.253)
Industry	0.045	(0.044)	0.064	(0.083)	0.163 **	(0.077)	0.234 ***	(0.073)
Net exports	0.014	(0.024)	-0.033	(0.040)	0.053	(0.040)	-0.100 **	(0.041)
R ²	0.335		0.519		0.353		0.153	
F-stat (prob.)	41.083	(0.000)	23.553	(0.000)	11.797	(0.000)	6.4737	(0.000)
N	414		115		114		185	

Note: Standard errors are in parentheses. Significant levels are indicated as 1% (***) , 5% (**) and 10% (*).

Source: Cerovic and Nojkovic (2011).

The results essentially correspond to the estimation results obtained from panel analysis in Table 3. However, the above analysis shows that the identified changes in the growth model are not distributed over certain *periods of time* but rather over various *levels of transition progress*. We found two reform related break points and three corresponding models of growth, which indicates that the growth pattern of a transition economy alters at different levels of reform advancement (panels A2, A3, A4).

Thus, for example, the first model (panel A2) basically resembles the panel results for the first decade of transition reported in table 3a. Nevertheless, this result demonstrates that such a model is in fact specific to an early phase of transition

(average EBRD index from 1 to 2.33), regardless of when it happens. In this early phase, which is primarily characterised by liberalisation and limited privatisation as initial reforms, the growth model is founded on reform implementation and disinflation or macro-stabilisation, and is additionally affected by initial conditions. This is reasonable: when changing an economy's entire institutional environment, rapid construction of new fundamental institutions and a stable macro-environment should support growth, or, to be more precise, should diminish losses in growth induced by such a change.

Already at a slightly advanced phase (EBRD indices between 2.33 and 2.92) we discover an almost entirely different model of growth (panel A3). Along with a stable macroeconomic environment and under the continuing effect of inherited conditions, the model clearly suggests industrial output is a significant factor of growth (and indicates the potential importance of higher net exports: though insignificant, the coefficient becomes positive). On the other hand, the model no longer recognises reforms as having a significant impact. This could be a very important finding: it suggests that after the first wave of reform its continuation, although necessary, cannot remain the primary force of economic growth. The model points to the need for *additional policies* to deal with the structural adjustments of the economic sectors, particularly regarding industrial output. Furthermore, it points to the changing role of exports and an increasing need to focus on the share of tradable goods in an economy already in the mid-phase of transition. As demonstrated in Table 2, it seems that this type of industrial policy – with rare exceptions – has been seriously and systematically neglected during transition.

Finally, the estimated results of the third model (panel A4), although – in some elements – resembling the panel results obtained for the 2001-09 period (as reported in Table 3-b), are actually specific to a more developed transition phase and more-reformed countries (EBRD index beyond 2.92). The model particularly points to a significant and negative impact of reforms (mostly over-accelerated) and positive effects of larger industrial output shares. However, it should be noted that in analysing the 1991-2007 period – that is, before the crisis – the model recognises positive effects of reforms and does not indicate that industrial output significantly enhances growth (see in detail: Cerovic et al., 2012), which is somewhat different than the panel results for the second decade of transition (where industry appears as a significant growth factor). This is easy to explain: the results for the second decade are mixed; they look jointly at more-reformed countries and those that are still in a middle phase, when industry is more important. When the two groups of economies are analysed separately it

becomes clear that the growth of the more-reformed countries was primarily based on reforms. In our view, this indicates that growth models based on the reforming process alone, without a defined industrial policy, although seemingly successful at higher reform levels (before the crisis), were actually leading to certain structural distortions that were revealed after the outbreak of the global crisis.

In estimating model (2) we got similar results, although only one reform-related break point was found. Moreover, the break point changes its position depending on the period observed. For the period 1991-2007 the results indicate a first-growth model of the initial phase of transition (EBRD index from 1 to 2.37), based on reforms and macroeconomic stabilisation (low inflation and low share of government expenditure) yet affected by inherited conditions: these results fully correspond to those from model (1). The subsequent model points to a higher industrial output share, higher net exports, stable macroeconomic environment, and impact of initial conditions (see more in Cerovic et al., 2012), which corresponds to the results of the second and third phases.

When the period of observation is extended to 2009, the break point moves to the higher reform level (EBRD index beyond 2.81, as presented in Table 5, panel A3). The model below the break (Table 5, panel A2) combines the previously identified features of the first two phases of transition, highlighting reforms, macroeconomic environment, industrial output, and initial conditions as significant factors of growth. Beyond this point the model is like the one found for the advanced reform phase in estimating model (1), with negative impact of reforms and positive effects of higher industrial output share, low inflation, and low government expenditure. Since the break in growth patterns obviously moves with the period observed, particularly when years of crisis are taken into consideration, the results could be interpreted as follows: in a stable economic environment a country's economic policy should take into account the importance of industrial output after the first wave of reforms. Alternatively, when economic shocks are expected, it would be wise to support industry jointly with reforms from the beginning of transition, and definitely before the crisis actually occurs.

Table 5. Growth models and structural breaks related to reform progress, dependent variable: growth rate (model 2: 1991-2009)

A: Index range	Full sample (A1)		(Min; 2.81)		(2.81; Max)	
			(A2)		(A3)	
Intercept	8.591 ***	(2.692)	1.054	(5.302)	15.382 ***	(3.727)
Inflation (log, lagged)	-4.424 ***	(0.532)	-4.850 ***	(0.745)	-2.441 ***	(0.766)
IC1	1.005 **	(0.417)	1.848 **	(0.717)	0.128	(0.424)
EBRD index (lagged)	1.674 ***	(0.610)	4.789 ***	(1.373)	-3.205 ***	(1.172)
Industry	0.093 **	(0.044)	0.107 *	(0.064)	0.177 ***	(0.063)
Openness	-0.019 **	(0.010)	-0.015	(0.016)	0.019	(0.012)
Net exports	0.029	(0.024)	0.030	(0.035)	-0.028	(0.033)
Gov. expenditure	-0.140 ***	(0.031)	-0.108 **	(0.048)	-0.116 ***	(0.038)
R ²	0.371		0.46399		0.177	
F-stat (prob)	33.16291	(0.000)	21.76457	(0.000)	6.453	(0.000)
N	402		184		218	

Note: Standard errors are in parentheses. Significant levels are indicated as 1% (***) , 5% (**) and 10% (*).

Despite some distinct features resulting from different specifications of models (1) and (2), the estimation results suggest that, in addition to transition-related reforms, there is need for an explicit policy that deals with the sectoral structure of a transition economy. Such a policy should be primarily directed at fostering industrial (tradable) output, since a higher share of industrial output already appears to be a leading force of growth after the initial transition reforms have been implemented⁹. Since the growth model alterations are reform-related, we may additionally conclude that the advancement of reform actually requires new types of policy, notably a policy that would support an increase in the industrial output of a country. Our results also confirm that reforms themselves can only be principal drivers of a transition economy’s growth during the early phase of reform implementation. Shortly after, reform should be supplemented by more proactive industrial policies that encourage industrial production. Moreover, the results suggest that if countries remain within the initial model of growth, relying on reform policies only, certain structural imbalances could emerge in

⁹ Export-oriented industries could also be the target of such policies, although our results show somewhat mixed results regarding the net exports variable. Moreover, the results are evidently connected with the mixed results for openness of the country while their coefficients change the sign reciprocally. Such mixed effects, particularly regarding openness in various periods of transition, have already been noted in the literature and probably depend on model specifications (e.g., Cieslik and Tarsalewska, 2013).

the longer run. According to our estimation results and data presented in Table 1, it seems that this has indeed been the case during the crisis in a number of transition countries that have usually been seen as leading reformers.

The results also clarify why a broader discussion on the growth model for transition economies began only once they had been affected by the global economic crisis. Before late-2008 the internal disparities that had developed during the reform process remained hidden and suppressed due to the general belief that market forces would, by themselves, produce desirable outcomes. However, our analysis suggests that steps toward sectoral adjustment in transition economies could be taken earlier, or rather that the proper time for introducing additional policies and some type of industrial policy was as early as the medium stage of transition reform. Can we expect these adjustments to be achieved spontaneously without a specific industrial policy? The data on industrial production, the lack of such policies, and the overall development of transition economies up until the crisis do not suggest that such an outcome is plausible.

Finally, the results shed new light on the questions, raised earlier, of why groups of countries vary regarding their models of growth, and on whether the ex-USSR group had better policies, due to growth led by primarily industrial output, than the CSEB group, whose growth was based on imports. The results cannot offer a direct and definite answer, but they suggest that the higher industrial output share in the ex-Soviet group is due to a lower phase of transition and to the richer resources they possess (rather than to a specific industrial policy). Conversely, the import-oriented growth model of the latter group primarily derives from the advanced stage of their reforms carried out in accordance with transition schemes, rather than from a deliberately chosen growth model. It remains to be seen whether the former group can take advantage of its position by implementing further reforms and building a proper institutional environment, and whether the latter group will adopt the necessary policy measures to make better use of its reform progress.

6. WHAT TYPE OF INDUSTRIAL POLICY?

Discussions on a new growth model for transition economies coincided with a renewed interest in industrial policy in the theoretical literature, as evidenced by writings of Chang, Rodrik, Lin, Lin and Monga, and others. Rodrik (2008) presents a number of theoretical arguments in favour of industrial policy. Industrial policy is understood to denote “policies that stimulate specific

economic activities and promote structural change”. As such, industrial policy is not about industry per se; thus policies targeted at non-traditional agriculture or services qualify as much as incentives for manufactures. Rodrik argues quite convincingly that horizontal interventions need to be considered as a limiting case and not as a clear-cut alternative to sectoral policies, in line with the most recent EU approach to industrial policy.

There are, however, a number of critical objections when it comes to industrial policy implementation, such as whether governments have the necessary information to identify with any degree of certainty the relevant firms, sectors, or markets that are subject to market imperfections, and that industrial policy can easily lead to corruption and rent-seeking. Once a government decides to support certain firms or sectors it becomes easy for the private sector to extract benefits, which distorts competition and transfers rents to politically connected entities. This is why two modes of industrial policy should be combined: the traditional mode, where the government picks certain sectors and provides incentives to get them off the ground through various policy instruments (tax credits, subsidies, directed credit) and a range of sectoral priorities; and a new mode, without a preconceived list of sectors and policy instruments, aimed at constructing an institutional framework that discourages the main problems deriving from the implementation of industrial policy mentioned earlier.

Similarly, Chang (2009) argues strongly in favour of an industrial policy, which he defines in a broad sense. He advocates an industrial policy that deliberately favours particular industries over others, usually (but not necessarily) to enhance efficiency and promote productivity growth, commonly known as ‘selective industrial policy’ or ‘targeting’ (Chang, 2009). As demonstrated in the previous section, this is of undoubted interest to transition economies. Regarding the common objections to industrial policy, Chang makes it clear that there is selectivity and targeting involved in virtually every (broadly-defined) industrial policy measure, even those intended for all enterprises (as in EU measures in the 2000s): for example, when R&D, innovation, or any other measure is favoured. Moreover, there are historical examples of government officials making investment decisions that were contrary to market signals, sometimes using state-owned enterprises as vehicles, who succeeded in building some of the most successful businesses in history.

Chang (2009) also makes a strong case in favour of export-promoting policies, which is extremely relevant for transition countries. “Many proponents of industrial policy do not fully appreciate how critical export is for the success of

industrial policy, while many opponents do not fully appreciate how export success also requires industrial policy” (Chang, 2009, p. 36). Economic development is impossible without good export performance: at least, it requires importation of advanced technologies in the form of either machines or technology licensing, which need to be paid for with foreign currencies. Unless a country is very small and/or very strategically located so that it gets disproportionately large amounts of foreign aid and/or FDI, it will simply have to export its way out of poverty. In emphasizing the importance of exports for economic development, the ‘export-promotion vs. import-substitution’ dichotomy ought to be abandoned. We need to debate how exactly to combine free trade, export promotion, and infant industry protection across sectors and over time, in a manner that helps a country to upgrade its industrial structure and grow fast.

Lin and Monga (2010) similarly stress that government intervention has always played an important role in facilitating structural change. “While markets are indispensable mechanisms to allocate resources to the most productive sectors and industries, government intervention – through the provision of information, coordination of hard and soft infrastructure improvement, and compensation for externalities – are equally indispensable for helping economies move from one stage of development to another” (Lin and Monga, 2010, p. 23). They recall the long historical and worldwide perspective of a rich experience of industrial policies. If the government proactively provides information, coordination, and externality compensation in the process of industrial upgrading and diversification, the country can grow much faster and achieve the goal of convergence with high-income countries (Lin and Monga, 2010, p. 7). Two types of policy are proposed: that which facilitates structural change by overcoming the information, coordination, and externality issues that are intrinsic to industrial upgrading and diversification, and policies aimed at protecting selected firms and industries that defy the comparative advantage determined by the existing endowment structure, either in new sectors or in old sectors that have lost comparative advantage. However, the authors consider that good criteria for identifying industries appropriate to a given country’s endowment structure and level of development are lacking. They suggest that when defining its industrial policy a country should follow the patterns of specialization of countries that are, on average, about 100% higher than their own level of per capita income in terms of purchasing power parity, instead of targeting mature industries from countries at a similar level of development (Lin and Monga, 2010, p. 13).

What emerges from the surveyed literature is the importance of industrial policy in its various dimensions, encompassing not only horizontal measures to increase

firms' competitiveness but also concrete government strategies to support structural changes, industrial diversification, and upgrading. Given that the global economic crisis has brought industrial policies back onto the EU agenda, the use of various measures to support concrete industrial sectors must also become a crucial component of the new approach to development, particularly in those transition countries that lag behind in most development indicators.

Analysing the case of the South East European (SEE) countries, Bartlett (2011, p. 19) concludes that the challenge for these countries will be to engage with this new agenda and to make a contribution to the new leading industrial sectors in the EU. The author illustrates how EU pro-competition industrial policies were adopted in almost all SEE countries in the 2000s: state aid to industry was reduced, while horizontal and decentralized approaches to industrial policy have been replacing the older reliance on the more direct vertical forms of industrial policy that had been designed to support key industries. The SEE countries have implemented policies to support SME, develop technology parks and local industrial clusters, and promote the transfer of knowledge from universities and research institutes to the business sector. The policies adopted by the SEE countries' governments have thus been very much in line with the dominant EU approach to industrial policy during the past two decades. However, judging from where these countries are today in terms of level of economic development, industrial diversification, and structural change, this type of policy has not contributed substantially to their economic recovery and catching up with the more developed countries. Despite many achievements during the 2000s, the results in terms of economic development have been disappointing.

For those transition economies that have gone through a severe process of deindustrialisation and are today characterized by weak export performance, the only way to increase the production of tradable goods and achieve stronger export-led growth is to start implementing a more active industrial policy. In parts of the transition region many industrial sectors have not been modernised and restructured as expected during privatisation, partly because most FDI went into non-tradable services (see Estrin and Uvalic, 2014). Due to the recent significant decline in FDI, these countries will have to rely much more on their own resources to finance investment and growth. These are the main reasons why they need an active industrial policy to encourage innovation, R&D, investment, quality protection, and technical standards, which would promote faster transformation of key industries, enhance enterprise competitiveness, and facilitate deeper industrial restructuring (Uvalic, 2011). In addition, these countries should implement industrial policy to support the priority sectors that

are important to the country's economic development. These could be emerging EU priority sectors, e.g., industries based on clean energy or the food processing industry, if they are in line with the country's factor endowments; or they could be sectors that have been important in countries that are presently at a twice-higher level of economic development, following the criteria proposed by Lin and Monga.

Given that manufactures have proved to be the key driver of exports, both worldwide and in the EU, measures should also be undertaken to increase the share of the manufacturing industry, in line with current EU objectives (see European Commission, 2013). An important lesson for transition countries is that the future drivers of industrial change might not be found in old large industries in traditional sectors, but in knowledge-driven and creative industries. The value added in industries with high knowledge, skills, and technology intensity is much greater than in traditional industries. At the same time, policy recommendations that stem from EU experience, especially from the older member states, should take into account the fact that different institutional contexts lead to different industrial policy outcomes, frequently determining the success (or failure) of the chosen industrial policy (Damiani and Uvalic, 2014). As shown by Acemoglu et al. (2006), not only individual institutional policies in educational systems, trade and regulatory settings, and R&D policies play a key role in the catching-up process, but also the interlocking complementarities within the institutional arrangements of the national innovation system. Thus, structural change in transition countries might depend on a whole set of policies and institutions that favour reallocation processes and remove the sources of inefficiency and economic backwardness (European Commission, 2013, p. 60; Damiani and Uvalic, 2014).

7. CONCLUSIONS

This paper has argued that industrial policy ought to become an important part of the reform process of transition economies, after having been, for the most part, neglected to date. Considering most transition countries' present low level of economic development and low average growth rates over the past two decades, industrial policy should become an important ingredient of the new development model for transition economies. Moreover, considering growth-model alterations during transition, both over time and particularly those that have emerged as reforms progress, we have argued that industrial policy should

complement other policies once the initial phase of economic reform has been completed.

These arguments are even stronger if we recall the very extensive process of de-industrialization that has taken place in many transition countries during the last two decades. We have illustrated how sluggish growth was closely connected to a low share of industrial output in these economies, which is a feature that remained concealed for a long time and was only revealed due to the severe impact of the global crisis. In order to achieve faster economic recovery, transition countries must seek ways to implement deeper industrial restructuring, increase exports, and attain export diversification. Such fundamental changes will not come about without an active sector-oriented industrial policy.

A strong case has been made for implementing a targeted or focused industrial policy as a necessary though obviously not sufficient condition for achieving faster economic growth for transition economies in the future. Such an industrial policy should not involve ‘picking winners’, in the sense of arbitrary support for individual enterprises, but rather in picking winning sectors or a winning typology of enterprise: for example, export-oriented, innovative, or high-value-added firms.

Industrial policy is especially needed today, after the negative effects of the global economic crisis on FDI. In a climate where globally foreign investment has fallen by some 40%-50%, transition countries cannot count on the arrival of a substantial number of foreign investors to restructure the main industrial and agricultural sectors. Even if and when FDI picks up, judging from previous experience it is unlikely that foreign firms will undertake the modernisation of large parts of the manufacturing industry without strong incentives, which should be offered in line with the principal objectives of a country’s industrial policy. The main task of economic restructuring lies with governments and their agencies, not with the imperfect markets that have operated in most transition countries for the many years since the initiation of transition reforms. Therefore, and particularly because of the delay in following such an approach, industrial policy needs to be studied carefully by national governments in the transition region, translated into effective policy measures, and consistently applied.

APPENDIX

**Specific transition country groups:
estimation results of time and country-specific fixed-effects specifications**

Table A1. Ex-USSR and CSEB countries, dependent variable: growth rate

Variable	period: 1991-2009			
	a) Ex-USSR (excl. Baltic)		b) CSEB	
Intercept	-2.328	(9.277)	2.546	(4.561)
Inflation (log, lagged)	-2.625 **	(1.290)	-1.192 *	(0.660)
IC1*trend	0.582 *	(0.341)	-0.111	(0.090)
EBRD index (lagged)	0.337	(2.231)	8.762 ***	(2.109)
Industry	0.149 *	(0.088)	-0.265 ***	(0.107)
Net exports	0.041	(0.044)	-0.183 ***	(0.051)
Openness	0.001	(0.019)	-0.001	(0.020)
Gov. expenditure	-0.168 *	(0.082)	-0.148 **	(0.055)
R ²	0.779		0.671	
F-stat (prob)	13.89	(0.000)	9.75	(0.000)
N	12		13	
T	19		19	
F-stat (Wald-test of time FE)	2.90	(0.000)	8.54	(0.000)
IM-test of heteroskedasticity	184.00	(0.465)	221.00	(0.468)
IM test (total)	235.01	(0.247)	256.37	(0.535)

Table A2. Resource rich, moderately rich and resource poor countries, dependent variable: growth rate

Variable	period: 1991-2009			
	a) Res. rich and mod. rich*		b) Resource poor*	
Intercept	4.053	(7.782)	6.636	(4.8639)
Inflation (log, lagged)	-6.721 ***	(1.230)	-0.724	(0.707)
IC1*trend	0.403 ***	(0.115)	0.381 ***	(0.067)
EBRD index (lagged)	1.703	(2.460)	1.627	(1.876)
Industry	0.222 **	(0.093)	-0.028	(0.101)
Net exports	0.022	(0.053)	-0.081 *	(0.042)
Openness	-0.020	(0.027)	-0.005	(0.017)
Gov. expenditure	-0.131	(0.095)	-0.248 ***	(0.057)
R ²	0.786		0.650	
F-stat (prob)	11.25	(0.000)	10.14	(0.000)
N	9		16	
T	19		19	
F-stat (Wald-test of time FE)	1.55	(0.084)	5.80	(0.000)
IM-test of heteroskedasticity	139.00	(0.460)	266.00	(0.471)
IM test (total)	175.82	(0.426)	310.6	(0.432)

* Country groupings according to de Melo et al. 1997, 2001.

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Received: July 15, 2014

Accepted: September 01, 2014