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THE SERBIAN PENSION SYSTEM IN TRANSITION: A SILENT BREAK WITH BISMARCK

ABSTRACT: *The pension system in Serbia was set up as Bismarckian earnings-related system almost one hundred years ago. At the outset of the transition process at the beginning of 21st Century, the pension system underwent bold reforms. Despite suggestions from the World Bank to adopt a three-pillar system that would involve a break with the Bismarckian heritage, reforms concentrated on parametric adjustments that strengthened the link between previous earnings and pension benefits. However, as this paper shows, the Bismarckian earnings-related system has subsequently been silently challenged. On the basis of an analysis of the current and perspective replacement rates for various*

earning levels and pension variation indicators, we show how the contributions/benefit link has been undermined. These policy changes have not been defined or understood as a new strategic course of action, nor have the strategic options been debated and analysed. These silent reforms have seemed to be a “quick and easy” solution to tackle high public expenditures and deficits without understanding their implications, and that breaking up with Bismarck implies significant transition costs.

KEY WORDS: *Bismarck, Beveridge, silent break, net replacement rate, pension variation*

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1. INTRODUCTION

In the late 19th and early 20th century, industrialised economies began introducing public pension systems, at first mostly emulating German social insurance or the means-tested assistance programme for the elderly adopted in Denmark (Gordon, 1988). With the evolution of pension systems, the latter assumed a residual role and universal/basic pensions, rooted in but departing from the social assistance tradition, became the second major public model. Thus, two public pension models were created, Bismarckian social insurance and the Beveridge basic income model (Bonoli, 2003; Ebbinghaus, 2011; Schludi, 2005). This dichotomy has been preserved in modern pension systems, affecting the main objectives, the generosity of public benefits, public expenditure on pensions, the source of financing, the presence of private schemes, mainly due to path dependency effects.

State intervention in pensions is usually justified by market failure and state paternalism, as well as the reasons related to social justice (Barr, 2012; Diamond, 1977). Contrary to the general consensus with regard to state intervention, opinions on the appropriate role of the state diverge. Many differences between systems arise from a different understanding of what the role of the state is, and what the main objectives of public pension systems should be. For the individual, the main objectives of old-age pensions are consumption smoothing and thus provision of a stable living standard over a lifetime, and insurance mainly against the risk of running out of savings. Public policy objectives include poverty relief and redistribution (Barr, 2012).

The different public systems have different pension objectives. Beveridge-type pension models, in the context of a paradigm in which the state plays a minimal role, focus primarily on poverty prevention within a public scheme, while consumption smoothing is delegated to private schemes either as a mandatory requirement or on a voluntary basis backed up by “nudging and tax inducements” (Glennester, 2017). Bismarck-type pension models place more importance on income smoothing, ensuring adequate retirement income related to previous earnings through public provision. Pursuing different objectives has not only led to different paths in the development of public pension programmes, but has also contributed to divergent responses to challenges and crises.

The challenges are many, and are similar to those that have been identified as challenges to the welfare state in general: ageing, globalisation, the changing nature of work (particularly new forms of employment and career interruption), changes in the family structure, rising inequality, and managing public expectations in the context of constant pressure to contain expenditure (Barr, 2012; Bonoli, 2003; Castles, 2004; Gilbert & Terell, 2013; Glennerster, 2017; Matković, 2019). In response to these challenges, pension systems have been constantly undergoing reforms. Since the beginning of the 2000s these reforms have led to elements of convergence between the two types of pension schemes, primarily in terms of pension policy objectives and pension outcomes (Stanić, 2012).

The aim of this article is to demonstrate the unrecognised departure of the Serbian public pension system from its Bismarckian origins and to specify the consequences of such a silent transformation. The article is structured as follows. Following the introduction, the second section briefly presents the four phases of pension system changes in Serbia after 2001, highlighting the Bismarckian legacy and the signs of departure from it. Section three describes the methodology and the data used to demonstrate the signs of a “break with Bismarck”, and section four evaluates indexation, minimum pension changes, and the main pension design indicators in Serbia. The findings are discussed in the section five together with the conclusions.

2. THE LEGACY OF BISMARCK AND PENSION SYSTEM REFORMS IN SERBIA

The first compulsory pension insurance system was introduced by the German government under Chancellor Otto von Bismarck in 1889. Wage earners and lower-paid employees in Germany were insured according to the Old Age and Disability Insurance Law. Compared to modern standards the benefits were low (a replacement rate of up to 30%), the retirement age high (70 years)¹ and the minimum contribution period relatively high (24 years). The system was financed from three sources (employers, employees, and government) and was initially established as a fully funded scheme. Financing on a pay-as-you-go (PAYG) basis

¹ “If the original design of pensions in the nineteenth century had related retirement age to life expectancy, there would be no pensions ‘crisis’” (Barr, 2012).

was not legislated until 1957, although it was de facto implemented throughout the interwar period (Börsch-Supan & Wilke, 2006; Gordon, 1988).²

A typical Bismarckian pension system predominantly relies on a public, PAYG, defined benefit scheme, financed by social insurance contributions. Therefore, current pensioners receive benefits that are financed from the contributions of currently employed workers (thus “pay-as-you-go”). The pension benefits are earnings related, based on a formula that takes into account the employee’s level of earnings and contribution period. The risk falls on the state as the sponsor of the pension plan, i.e., on current and future taxpayers, and contributions are adjusted to meet future obligations.³ The main goal of the Bismarckian public pension system is to maintain a relative standard of living (over the life cycle). Usually there is a minimum income component, safeguarding the level of pensions for low-income earners or for employees with a short contribution history. As a result, Bismarckian pension systems are characterised by high public pension expenditure and high replacement rates, substantial variation in pensions, and small vertical redistribution within the public tier (Stanić, 2012).

For a long time, Bismarck-type pension systems were labelled as highly path-dependent, difficult to change, rigid, and reform resistant in the context of the “almost incapable to reform” continental welfare states (Palier, 2006; Schludi, 2005). Reforms have occurred nonetheless, including both incremental changes and paradigm shifts.

During the last two decades, mainstream parametric reforms in public systems originating in the Bismarckian legacy have encompassed less generous indexation and valorisation procedures, and the extension of the reference period for calculating pensions from a limited number of best or final years’ earnings to a lifetime average. In parallel, the number of years required to qualify for the maximum pension and standard retirement age has increased, including a gradual equalisation of the retirement age for men and women, while some schemes have introduced an automatic link between retirement age and life expectancy. The introduction of an automatic balancing mechanism,

² Depression and inflation during the interwar period eroded pension benefits from fully funded plans, inducing a shift to the PAYG scheme in continental Europe (Myles, 2002).

³ In practice, both contributions and benefits are often adjusted (Barr & Diamond, 2010).

sustainability factors, a reduction coefficient, or links between retirement age and life expectancy are considered to be important for the financial sustainability of public pension systems. Early retirement has been constrained through the extension of minimum contribution years, increased eligibility age, and incentives for late retirement and/or reduction of benefits for early labour market withdrawal (European Commission, 2015; European Commission, 2018; OECD, 2017; Whitehouse et al., 2009; Carone et al., 2016; Palier, 2010; Schludi, 2005). On the revenue side, extended coverage to atypical workers, low-income earners, and the self-employed have resulted in more universal pension systems (Hinrichs, 2010; Schludi, 2005). Increasing contributions, or introducing new taxes earmarked for financing public pensions, have improved the revenue capacity of pension systems and their ability to deliver more adequate benefits.

Some of the reforms have diminished “the ‘corporativistic’ character of social insurance by homogenising both contribution requirements and benefit eligibility across social strata” (Esping-Andersen, 2010). Regarding organisational structure, this tendency has led to the abolition and/or harmonisation of different public pension schemes by occupational status (Hinrichs, 2010; Obinger & Talos, 2010). During the 2008–2009 financial crises, temporary measures were adopted that aimed to reduce benefits through indexation changes or even pension cuts. Additionally, increased contribution rates improved the financial stability of pension systems (Carone et al., 2016). After 2015, measures aimed at poverty reduction and income maintenance gained in importance across the EU.

More systemic reforms of traditional Bismarckian systems have entailed the conversion of defined benefit systems to points systems or to notional defined contributory (NDC) schemes.⁴ Although the same types of reforms are possible in all three closely related variants of PAYG earnings-related pension schemes

⁴ In points systems “workers earn pension points based on their individual earnings for each year of contributions. At retirement, the sum of pension points is multiplied by a pension-point value to convert them into a regular pension payment. NDC schemes record each worker’s contributions in an individual account and apply a rate of return to the accounts. The accounts are “notional” in that both the incoming contributions and the interest charged to them exist only on the books of the managing institution. At retirement, the accumulated notional capital in each account is converted into a stream of pension payments using a formula based on life expectancy at the time of retirement” (OECD, 2006:24).

(OECD, 2006), the NDC system stands out due to many automatic adjustments, “without a need for discretionary political decisions” (Holzmann, 2017), including an automatic link between pension benefits and life expectancy. Beyond changes in earnings-related public plans, two changes in the Bismarckian pension systems have introduced a sharp break with tradition: the introduction of social pensions and the growth of private sector pensions. The latter is considered to be a particularly non-typical feature of the Bismarckian system (Palier, 2010).

During the 1990s most Central and Eastern European (CEE) countries implemented ‘carve-out’ pension privatisation, following the World Bank’s three-pillar pension reform design. Contrary to the CEE transition reform path, a radical change towards privatisation has never been a serious policy option in Continental Europe (Schludi, 2005), but it has still partially occurred through the back door (Orenstein 2011). Retrenchment of the public system opened the space for private provision of complementary rather than carve-out pension plans. Usually a public–private mix was introduced by offering tax advantages and direct subsidies, or even in some cases by converting severance pay into occupational pensions (Ebbinghaus, 2011; Schludi, 2005).

Although the trend toward privatisation seems undeniable, in most EU Member States “the bulk of pension benefits currently remain contribution-based and earnings-related (Bismarckian type system), with a relatively limited role played by private pensions” (Carone et al., 2016). According to the 2018 Pension Adequacy Report, despite broad coverage, the level of savings in occupational schemes is still limited in the Bismarckian pension systems (European Commission, 2018). The analysis of most continental pension systems raises the question of whether the reforms entail “a long goodbye to Bismarck” (Palier, 2010), or in some, a silent break (Conde-Ruiz & González, 2016).

In Serbia at the end of 2000, before the transition commenced, the pension system was a typical representative of the Bismarckian tradition with a single, defined-benefit, PAYG public scheme providing old age, disability, and survivors’ benefits. Compulsory insurance covered employees, employers, the self-employed, and farmers, and the insurance was organised in three separate funds managed by the social partners. Economic hardship, war in the region,

international sanctions, and hyperinflation severely affected the functioning of the pension system during the 1990s. Low GDP, high unemployment and a widespread grey economy, evasion of contribution payments, and liberal eligibility and early retirement criteria generated permanent difficulties in securing sufficient funds for regular pension payments. The necessary 'adjustments' were made by indexing pension benefits to decreasing wages, increasing contribution rates, and reducing expenditure through various dubious mechanisms: disbursement of less than 12 pensions a year, non-constitutional reduction of pensions during 1994–1995 (the so-called 'large' debt to pensioners), distribution of electricity bill vouchers instead of pensions, depreciation of benefits through inflation, and other measures (Matković, 2005).

The democratic government elected in 2001 faced a huge pension bill and a number of unfavourable pension indicators: a large number of pensioners, very high contribution rates, a low insurer-to-pensioner ratio, unsustainably high replacement rates, and low pension benefits in absolute terms (World Bank, 2003a). The first phase of the reform (2001–2004) was marked by a consolidation of the devastated system and major parametric reforms. In 2001, the first efforts focused on consolidating the system, paying pensions regularly, and preparing for evidence-based reforms. In parallel, legislative changes entailed urgent parametric reforms aimed at a rapid financial stabilisation of the system. The two key changes introduced were raising the retirement age by three years at one go (from 55 to 58 for women and from 60 to 63 for men) and shifting from indexation based on wages to mixed 50:50 indexation based on a combination of wages and the cost-of-living (the so-called Swiss formula). In addition, with the goal of reducing redistribution within the system, a single minimum pension amount was introduced instead of four levels based on length of service.

Contrary to the World Bank blueprint, the decision was made to focus the reform efforts primarily on parametric changes in the public pillar and not to pursue 'carve-out' pension privatisation for the time being (Matković, 2001; Altiparmakov & Matković, 2018). A rapid introduction of a so-called "second pillar" was rejected, primarily due to its potentially high transition costs, the underdevelopment of financial markets, and poor experiences in other countries (Matković, 2005). The subsequent abandonment of the second pillar in a number of CEE countries during the crisis was justified both by the high transition costs

and by the high administrative fees and poor returns to pension funds (OECD, 2013).

In April 2003 a framework law was adopted that remained in the Bismarckian pension insurance tradition. A key feature of the new law was a shift from the traditional defined-benefit system to the German points system, with the aim of tightening the link between contributions and benefits. In line with the dominant doctrine at the time, other changes included an extension of the reference period from the ten best years to lifelong earnings, an extension of mandatory coverage to employees in non-standard employment and the tightening of eligibility criteria regarding disability pensions and accelerated pension benefits, the latter with a transitional provision. The concept of total disability was introduced instead of the inability to perform a particular job, and a regular evaluation of disability pensions was imposed. Certain rules in farmers' insurance also changed (Matković, 2005; Mijatović, 2010; Stanić, 2010a). During this phase the contribution rates were first substantially reduced and then slightly increased. Finally, in 2004 the Law on Compulsory Social Insurance Contributions came into force, which put an end to adjusting contribution rates to the needs of pension payments. As a result, the Pension Fund deficit increased and had to be financed by general taxation.⁵ According to the World Bank, “bold changes in the pension system in Serbia, implemented on two occasions, during 2001 and 2003, [were] among the most important achievements in the overall reform program” (World Bank, 2003b:21).

The second phase of pension reform (2005–2008) was marked by the introduction of voluntary pension insurance. During this period the administrative consolidation of the three public pension funds (for employees, the self-employed, and farmers) was finalised, while financial consolidation became effective as of 2011. Among the parametric reforms a further gradual increase in the standard retirement age of two years, relaxation of eligibility criteria for accelerated beneficiaries, and the gradual abandonment of the Swiss formula stand out.⁶

⁵ For more on the issue of deficit, see Bajec & Stanić, 2005

⁶ For details on indexation and minimum pension development see Section 4.

The defining feature of the third phase (2009–2013) was the freezing of public pensions during 2009 and 2010 as part of fiscal austerity measures. In 2010, legislative changes focused mainly on setting up new indexation and fiscal rules that linked the uprating of pensions partly to GDP growth. During this phase, military insurance was integrated into the overall pension system, including fully harmonised eligibility requirements. Towards the end of the period, pensioners with low pensions received several instalments of one-off assistance from the budget (Stanić, 2010b; Government of the Republic of Serbia, 2014).

Finally, in the last phase (2014 to the present) additional legislative changes stipulated penalties for early retirement and a further gradual increase in the retirement age for women to 65 (to equalise with that of men in 2032). After several years of erratic pension indexation, not in accordance with The Law on Pension and Disability Insurance, the amendments legitimise the existing situation by stipulating that the Budget System Law has jurisdiction over pension growth. In addition, the Law on the Temporary Regulation of Pension Disbursement that effectively reduced the higher pensions was repealed. Additional provisions envisaged one-off payments, at the government's discretion. During this period a number of laws and decrees regulated further eligibility criteria for specific professions (police, judicial officers), although this is contrary to the Law on Pension and Disability Insurance and to the principle of consistent regulation of the pension system (Government of the Republic of Serbia, 2018: 213).⁷

3. METHODOLOGY AND DATA

Following Casamatta et al. (2000), Disney (2004), and Stanić (2012) we define pension benefit as:

$$b = (1 - \alpha)\bar{b} + \alpha W$$

where b is pension benefit coming from the mandatory public pension system; \bar{b} is the flat, i.e., redistributive component of the benefit; and W denotes the previous wage, i.e., an individual's earnings history. The parameter α is the

⁷ The Law on Pension and Disability Insurance stipulates that only sectoral law can regulate pension entitlements (Articles 5 and 7).

‘Bismarckian factor’ assigning a weight to the earnings-related component in the pension benefit while $(1 - \alpha)$ is the ‘Beveridge factor’ assigning weight to the flat component, i.e., the redistributive element. The higher the α , the more closely the benefit is linked to previous earnings and the less redistributive the system is, i.e., more Bismarckian. When $\alpha = 0$ the pension benefit is flat and the system is purely Beveridgian; i.e., there is higher vertical redistribution within the system.

We use two pension design indicators to proxy the above formula: the theoretical net replacement rate (RR) as a proxy for the Bismarckian factor, and the pension variation as a proxy for the Beveridge factor. The hypothetical/theoretical RR is the most usual indicator for assessing the adequacy of a pension system. It has been developed “to measure the extent to which pension systems enable workers to preserve their previous living standard when moving from employment to retirement” (European Commission, 2006). The hypothetical standardised approach is used in order to isolate the specific design issues while also allowing comparison across countries (Stanić, 2017). The RR can be calculated as a current RR, showing the design of the pension system for those currently retiring, as well as a prospective (expected) RR that reflects future entitlements under present legislation (Stanić, 2008).

Currently the European Commission Social Protection Committee and its Indicator Sub-Group (henceforth EC-ISG) and the OECD carry out the most prominent work on RRs. The EC-ISG calculates both current and prospective RRs while the OECD calculates only future RRs, for those just entering the labour market.

The EC-ISG defines RR as the ratio of pension benefit to final pre-retirement income (benefit in the first year of retirement divided by income during the year preceding retirement). The base case under this methodology is a single person with a 40-year career until retirement age (e.g., beginning work at 25 and retiring at 65) with constant average earnings. In addition, they calculate a flat low-earning profile at two-thirds of average earnings, rising careers, different seniority and retirement ages, and various other factors. In calculating prospective RRs the macroeconomic assumptions are specific to each country, which is the biggest problem with EC-ISG data in cross-country comparisons (Stanić, 2008).

The OECD defines the RR as the ratio of the pension benefit to individual lifetime-average earnings re-valued in line with economy-wide earnings growth. Under the baseline assumptions of a flat career worker (meaning a worker earning the same percentage of the economy-wide average earnings throughout their career), the lifetime average re-valued earnings and the individual final earnings are identical. Therefore, for flat career workers there is no difference between the OECD and EC (ISG) definitions. The OECD calculates only prospective (expected) RRs for current workers just entering the labour market at the age of 20 and retiring at the statutory retirement age. Since the statutory retirement age varies across countries, the length of the full career varies as well (40 years for retirement at 60, 45 years for retirement at 65, 47 years for retirement at 67). In most cases the retirement age is 45 years, meaning that RRs according to OECD methodology are higher than RRs according to EC-ISG methodology. This is a major disadvantage of the OECD methodology. The OECD methodology fixes the macroeconomic assumptions for all countries to 2% annual inflation and 1.25% annual real wage growth. Though this is not a realistic assumption, it “ensures that the outcomes of the different pension regimes are not affected by different economic conditions. In this way, differences across countries in pension levels reflect differences in pension systems and policies alone” (OECD, 2017: 98).

In this article, we mainly follow EC-ISG methodology and only use OECD methodology for international comparison, for several reasons: (1) the advantage of a single set of macroeconomic assumptions, (2) more countries available for comparison, and not only EU countries, and (3) the net RR is available for the first pillar (mandatory system, public or private including near-universal schemes). The EC-ISG calculates net RRs for both first and second pillars. For international comparison, countries are grouped into Bismarckian, Beveridgian, and Nordic according to Stanić (2010b and 2012).⁸

We carried out five calculations of prospective (future) RRs in Serbia. Four of the calculations are based on various scenarios concerning macroeconomic assumptions for a worker with an average 40 years' career. The fifth calculation

⁸ The exception is Denmark, which is usually classified as a Beveridge country; however, it is a borderline case and in this concrete situation fits better with Nordic countries.

uses the OECD methodology for a set of macroeconomic assumptions, and a career length of statutory retirement age minus 20, which is currently 45 years.

The first scenario uses the OECD’s set of economic assumptions. Price inflation is assumed to be 2% per year. Real earnings are assumed to grow by 1.25% per year on average. Given the assumption for price inflation, this implies a nominal wage growth of 3.275% (OECD, 2017). Since the formula in Serbia is related to real GDP growth, given the real earnings growth of 1.25% we assume a maximum GDP growth of 3%, which means no real indexation of general point. We assume indexation with CPI once a year. The scenarios presented in Table 1 are variations on this theme.

Table 1: Assumptions used to calculate RR, 5 scenarios

| Scenario | Macroeconomic assumptions | Indexation | Years of service |
|-----------------------------------|--|------------------------------------|------------------|
| Scenario 1. (OECD assumptions) | 2% CPI, 1.25% real wage growth, 3% real GDP growth | CPI | 40 |
| Scenario 2. | 2% CPI, 2.5% real wage growth, 3% real GDP growth | CPI | 40 |
| Scenario 3. | 2% CPI, 3% real wage growth, 4% real GDP growth | CPI (PDI and BS Law 2010) | 40 |
| Scenario 4. | 2% CPI, 3% real wage growth, 4% real GDP growth | GDP real growth – 3% (BS Law 2014) | 40 |
| Scenario 5. (OECD methodology) | 2% CPI, 1.25% real wage growth, 3% real GDP growth | CPI | 45 |

Following Disney (2004) and Stanić (2012) we use the indicator ‘pension variation’ to measure the degree of progressivity (redistribution) in the pension system, or the ‘Beveridge factor’ $(1 - \alpha)$. Pension variation is defined as a

coefficient of variation (CV) of replacement rates for various earning levels. For this analysis we used the following levels compared to the Serbian average wage: 20%, 40%, 100%, 200%, 300%, and 400%. The coefficient of variation is a normalised measure of dispersion of a probability distribution defined as the ratio of the standard deviation to the mean ($CV = \frac{\sigma}{\mu}$). Hence the pension variation is defined as the standard deviation between RRs for six types of earners (20%, 40%, 100%, 200%, 300%, and 400%), divided by the average RR for these six types of earning profiles. We also introduce another indicator to measure the weight of the flat component in the pension system ($1 - \alpha$). This is the minimum payment (minimum pension plus various payments topping up the minimum pension) relative to the pension of an average full-career worker.

4. INDEXATION METHOD, REDISTRIBUTIVE ELEMENTS, AND THE MAIN PENSION DESIGN INDICATORS IN SERBIA

This section reviews the indexation methods, redistributive elements and pension design in Serbia. It focuses firstly on an overview of general point and pensions in payment indexations, before moving on to provide an overview of minimum pension level changes and other redistributive provisions and the main historical, current, and prospective pension design indicators.

4a. Overview of general point and pensions in payment indexations

In the last two decades the modality of uprating the general point value and pensions has been changed too many times. We present the indexation changes classified according to the phases explained in section 2 above.

Phase I: 2001–2004

After the wage indexation practiced during the 1990s (though often only nominally due to irregular payment of benefits), 2001 saw a shift to the Swiss formula. Under the 2003 Law, pensions in payment and the general point were indexed four times a year to CPI growth and average wage growth in the previous quarter. The indexation percentage followed the Swiss formula being based on the sum of one half percent of the change in CPI and one half percent of the change in wages (Stanić, 2010a).

Phase II: 2005–2008

Following the 2005 amendments to the Law on Pension and Disability Insurance, the plan was to index pensions in payment and the general point to CPI growth since 2009 twice a year. The transition phase was envisaged as 2006–2008, in which the general point and pensions in payment were supposed to be indexed according to the modified Swiss formula, with a lower percentage of wage growth taken into account each year: 37.5% in 2006, 25% in 2007, and 12.5% in 2008 (Stanić, 2010a). However, these 2005 amendments also envisaged an extraordinary indexation whenever the average level of pension benefits in a given year fell below 60% of the net average wage. Such an extraordinary indexation was supposed to be performed in January the following year over a period of three years (*ibid.*)⁹ This was a political bargain to some extent; hence this amendment was sometimes dubbed the “Socialist Party of Serbia (SPS) amendment” (Stanić, 2008: 82). It seemed at the time that decision-makers did not actually believe that the benefit ratio would fall below 60% of the average wage. However, that actually happened when in 2007 the benefit ratio fell below 60%, though the wage statistic was overestimating the average wage at the time and hence, when the methodology was changed in 2008, it turned out that the benefit ratio in fact had not fallen below 60%. Nevertheless, an extraordinary indexation of 11% had already been enforced in January 2008 (Stanić, 2011).

Another extraordinary indexation took place in October of the same year (2008) – an extra 10% was added to the regular indexation in response to the demands of the Party of United Pensioners of Serbia (PUPS), part of the then new Serbian coalition government (Stanić, 2008, 2011). These extraordinary adjustments ensued together with regular indexation; hence in nominal terms the overall uprating of pensions in 2008 was above 30%, and almost 15% in real terms. This occurred at the beginning of the economic crisis when there was a fall in GDP, wages, and employment; hence the economic trends were completely divergent from the rise in pensions.

Altogether, this led to a dramatic jump in pension expenditure and a deficit in the pension system, and in particular subsidies and transfers from the budget (Stanić, 2011). The increase in pensions coupled with the fall in GDP led to pension

⁹ Article 75 of the 2005 Law Amending the Pension and Disability Insurance Law

expenditure as a percentage of GDP surging from around 11.5% in 2007 to almost 13% in 2008 and 14% in 2009 (Government of the Republic of Serbia, 2018).

Phase III: 2009–2013

As a result of the economic crisis, pensions were frozen throughout 2009 until the end of 2010. Amendments to the Law on Pension and Disability Insurance adopted at the end of 2010 foresaw biannual uprating (on April 1 and October 1) by the consumer price change in the preceding six months. If GDP in the previous calendar year had grown more than 4% in real terms, the pensions were to be indexed in April to the percentage representing the difference between the real GDP growth rate and the benchmark of 4%. This actually meant no real growth, or, in an optimistic scenario, very modest real growth. As a transitional solution, for the first two years, on 1 October 2011 and 1 April 2012, a version of the ‘Swiss formula’ was proposed: the percentage difference between inflation and real GDP growth. In addition, in December 2010 pensions were exceptionally adjusted with a 2% increase (Government of the Republic of Serbia, 2011, 2014).

The Law Amending the 2010 Law on the Budget System¹⁰ also legislated pension indexation – introducing the precedent of legislating pension law with another law – establishing the indexation outlined above until 2015 at least, and probably much longer – “until the share of pension expenditure in GDP attains 10%” (Government of the Republic of Serbia, 2011). However, like the 2005 legislation, the modality of indexation envisaged by the amendments in the 2010 Law was never applied. In fact, pensions have been uprated on an ad hoc basis, as a rule by rates below price growth rates. In September 2012, immediately before the implementation of Article 80,¹¹ the Law was amended and as a result, pensions were uprated by 2% in October 2012 and April 2013. The Law was amended again in July 2013, and pensions were uprated by 0.5% in October 2013 and April 2014. A 1% increase was envisaged for October 2014, and the application of Article 80 of the PDI Law, governing uprating, was finally envisaged as of April 2015.

¹⁰ Official Gazette of RS 54/2009, 73/2010, 101/2010, 101/2011, 93/2012, 62/2013 and 63/2013 – corrigendum.

¹¹ Indexation with CPI or real growth above 4% GDP growth.

However, in December 2013, the Law was amended again. Under these amendments, the uprating foreseen by Article 80 of the Law was postponed once more. “From April 2015 to the end of 2016, biannual uprating by 0.5% was anticipated; further, uprating of pensions in October 2014 was conditioned on equalisation of wages/salaries in the public sector if adopted by July 1, 2014” (Government of the Republic of Serbia, 2014).

Phase IV: end of 2014 to the present

There was no indexation in October 2014 since the precondition (equalisation of wages in the public sector) was not fulfilled. Instead, the Law on the Temporary Regulation of Pension Disbursement was passed, which envisaged the ‘temporary’ reduction of higher pensions from November 2014. In particular, it entailed “a reduction in pensions higher than RSD 25,000, as follows: pensions higher than RSD 25,000 and lower than RSD 40,000 are reduced by the amount calculated by multiplying the pension amount in excess of RSD 25,000 by the coefficient of 0.22; pensions higher than RSD 40,000 are reduced by the sum of the amount obtained by multiplying RSD 15,000 by the coefficient of 0.22 and the amount obtained by multiplying the pension amount in excess of RSD 40,000 by the coefficient of 0.25”¹² (Government of the Republic of Serbia, 2018).

The effective pension reduction ranged from zero for pensions below RSD 25,000 to 20% for the highest pensions (Table 2)

Table 2: Effective pension reduction with Temporary Regulation of Pension Disbursement

| According to the Law on PDI (October 2014) | 25,000 | 30,000 | 32,300 | 40,000 | 50,000 | 60,000 | 70,000 | 80,000 | 90,000 | 100,000 | 120,000 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| Reduced pension amount | 25,000 | 28,900 | 30,694 | 36,700 | 44,200 | 51,700 | 59,200 | 66,700 | 74,200 | 81,700 | 96,700 |
| Effective reduction | 0% | 3.7% | 5.0% | 8.3% | 11.6% | 13.8% | 15.4% | 16.6% | 17.6% | 18.3% | 19.4% |

Source: Government of the Republic of Serbia (2018).

In addition, changes in the PDI Law from the end of 2014 envisaged that while the Law on the Temporary Regulation of Pension Disbursement was in effect, indexation of pensions would not be performed by the PDI law but rather

¹² Law on the Temporary Regulation of Pension Disbursement, Articles 2 and 3.

according to the Law on the Budget System.¹³ An amendment to the Budget System Law at the end of 2014 stipulated that the fiscal management principles required confining pension expenditure to 11% of GDP instead of 10%. In addition, the indexation formula in the PDI law (article 80) linking the October indexation to CPI growth, and the April indexation to the percentage difference between the GDP real growth rate and the rate of 4%, was changed to the following formula: “from April, pensions can be indexed up to the sum of the consumer price growth rate in the previous six months and part of the real GDP growth rate in the previous year above 3%, and from October they can increase up to the consumer price growth rate in the previous six months”. At the same time, Article 80 is still present in PDI law, making the two laws incompatible. Furthermore, this Budget System Law amendment introduced the following formula: when the fiscal conditions are fulfilled, whether there will be a pension indexation and, if so, what the percentage will be “is decided by the Government, at the proposal of the Ministry”.¹⁴

What followed were amendments to the Budget System Law at the end of every year from 2014, so that pensions were indexed by 1.25% in December 2015 and by 1.5% in December 2016. In December 2017, pensions and the general point value were raised by 5%, which was the first time in several years that the increase was above the consumer price growth rate (Government of the Republic of Serbia, 2018).

Amendments to the Pension and Disability Insurance Act, adopted in September 2018, ended the ‘temporary’ pension reduction that started at the end of 2014. The method of pension indexation is still regulated by the Law on the Budget System, the only difference being that the formulation changed from “while the Law on the Temporary Regulation of Pension Disbursement is in effect” to “until the financial sustainability of the pension and disability insurance systems is achieved”.

4b. Overview of minimum pension level changes and other redistributive provisions

Legislative amendments in 2005 increased the minimum pension – set in 2001 to 20% of the average monthly (gross) wage of the previous year and then indexed

¹³ Official Gazette no. 142/2014.

¹⁴ Official Gazette no. 142/2014.

using the Swiss formula – in January 2006 to 25% of the previous year's average wage (except for farmers). From that moment on, it was indexed like other pension benefits, but with a condition of extraordinary indexation if it were to fall below 20% of the previous year's average wage (Government of the Republic of Serbia, 2011).

Amendments to the law in 2010 again stipulated extraordinary indexation of the minimum pensions as of 1 January 2011, for “a percentage providing that the share of the minimum pension amount in January 2011 in the average net wage in the Republic of Serbia in 2010 is higher for a percentage point relative to the share of the minimum pension in 2010 in the average net wage net of taxes and contributions of employees in the Republic of Serbia in 2010”. In addition, they specified that the minimum pension could not fall below 27% of the average wage net of taxes and contributions from the previous year (*ibid*).¹⁵ At the same time, these amendments decreased the maximum lifetime personal coefficient from 4 to 3.8, while the ceiling for paying contributions stayed at the same level of five average wages.

In September 2012, similar to the model that existed in Belgrade after 2008, all pensioners whose pensions in August of the same year did not exceed 15,000 dinars received four instalments of 4,000 dinars, which were supposed to be equivalent to a thirteenth pension of 16,000 dinars, but was actually spread over the period August 2012 to August 2013. Some 460,000 retirees received this assistance (Matković and Stanić, 2014). Later on, based on the Conclusions of the Government from the end of 2016, 2017, and 2018, all pension beneficiaries received a one-off payment of 5,000 dinars at the end of 2016 and 2017 and 3,000 dinars at the end of 2018.

Amendments to the Pension and Disability Insurance Act adopted in September 2018 provided a basis for a special form of payment to pensioners, to be decided by the government depending on the financial possibilities of the budget, but the funds for this purpose could not exceed 0.3% of GDP on an annual basis. This payment was designed to raise pensions paid in September before ending the ‘temporary’ pension reduction to at least 5% in nominal terms for both those

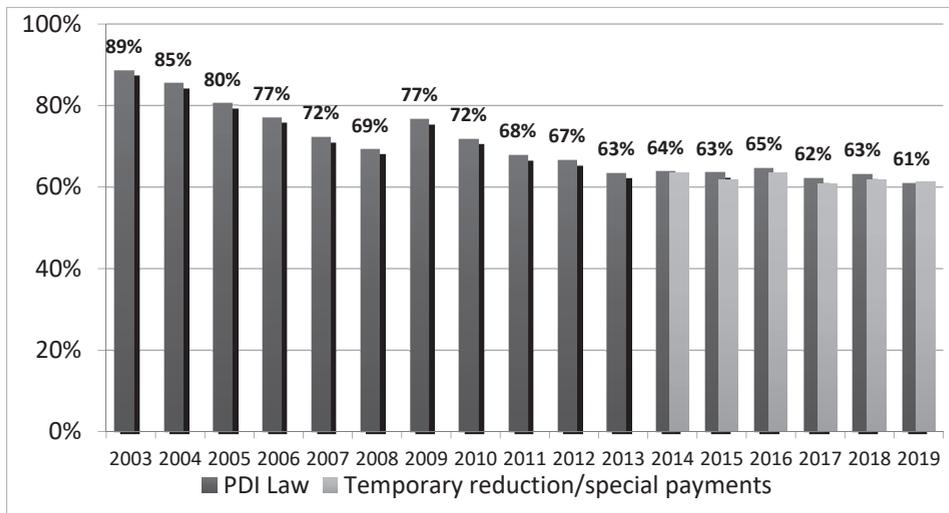
¹⁵ Official Gazette of RS, Nos. 34/03, 64/04-AD, 84/04-other law, 85/05, 101/05-other law, 63/06-AD, 5/09, 107/09, 101/10 article 28.

whose pensions in nominal terms were reduced in 2014 and those whose pensions were not reduced – pension below 25,000 RSD in October 2014 – or were reduced by less than 5% – pensions of around 32,000 RSD in October 2014. This special form of payment was paid from November 2018 and a decree adopted in December 2018 determined its payment until December 2019.

4c. Main historical, current, and prospective pension design indicators

When the reform process began in 2003 the replacement rate was almost 90% and decreased over time to around 61% in 2019 (Figure 1).

Figure 1: Net replacement rate in Serbia, 2003–2019



Source: Authors’ calculation. Note: 40 years’ flat career, average earner.

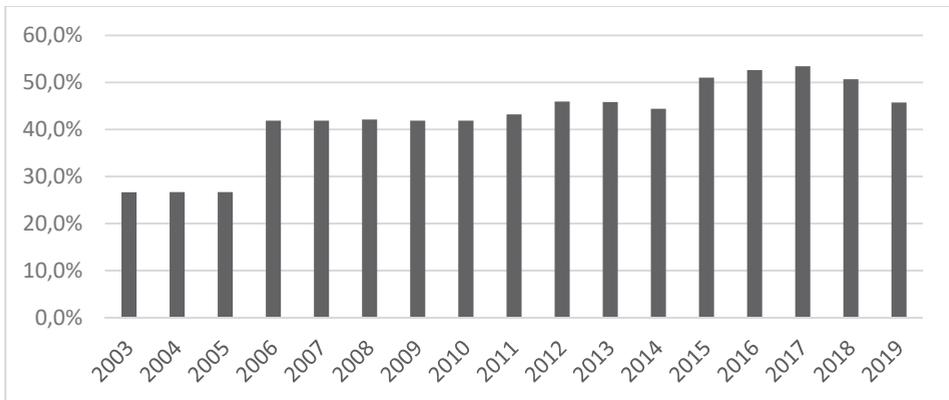
The pension variation indicator shows a significant rise in vertical redistribution over previous decades. The coefficient of variation of the net RR for various earning levels increased from 26.7% in 2003 to over 40% after 2006 and more than 50% during the ‘temporary’ reduction of higher pensions in 2015–2018 (Table 3 and Figure 2).

Table 3: Net RR for various earning levels, CV

| | 20% | 40% | 100% | 200% | 300% | 400% | CV |
|------|--------|-------|-------|-------|-------|-------|-------|
| 2003 | 158.8% | 91.6% | 91.6% | 91.6% | 91.6% | 91.6% | 26.7% |
| 2004 | 148.0% | 85.3% | 85.3% | 85.3% | 85.3% | 85.3% | 26.7% |
| 2005 | 139.5% | 80.5% | 80.5% | 80.5% | 80.5% | 80.5% | 26.7% |
| 2006 | 176.5% | 88.3% | 77.0% | 77.0% | 77.0% | 77.0% | 41.9% |
| 2007 | 165.8% | 82.9% | 72.3% | 72.3% | 72.3% | 72.3% | 41.9% |
| 2008 | 159.4% | 79.7% | 69.2% | 69.2% | 69.2% | 69.2% | 42.1% |
| 2009 | 156.6% | 78.3% | 68.3% | 68.3% | 68.3% | 68.3% | 41.9% |
| 2010 | 164.9% | 82.4% | 71.9% | 71.9% | 71.9% | 71.9% | 41.9% |
| 2011 | 157.5% | 78.8% | 67.9% | 67.9% | 67.9% | 64.5% | 43.2% |
| 2012 | 162.8% | 81.4% | 66.6% | 66.6% | 66.6% | 63.3% | 45.9% |
| 2013 | 154.6% | 77.3% | 63.4% | 63.4% | 63.4% | 60.2% | 45.8% |
| 2014 | 148.0% | 74.0% | 63.5% | 62.3% | 61.9% | 58.7% | 44.4% |
| 2015 | 147.3% | 73.7% | 61.7% | 55.0% | 52.6% | 48.9% | 51.0% |
| 2016 | 154.5% | 77.3% | 63.6% | 55.8% | 53.4% | 49.8% | 52.6% |
| 2017 | 150.5% | 75.3% | 60.9% | 54.1% | 50.5% | 47.8% | 53.5% |
| 2018 | 151.1% | 75.6% | 61.8% | 56.8% | 54.8% | 51.4% | 50.7% |
| 2019 | 148.6% | 74.3% | 61.3% | 61.0% | 61.0% | 57.9% | 45.7% |

Source: Authors' calculation. Note: 40 years' flat career, various earning levels.

Figure 2: Pension variation: coefficient of variation of RR for different levels of earnings, Serbia 2003–2019

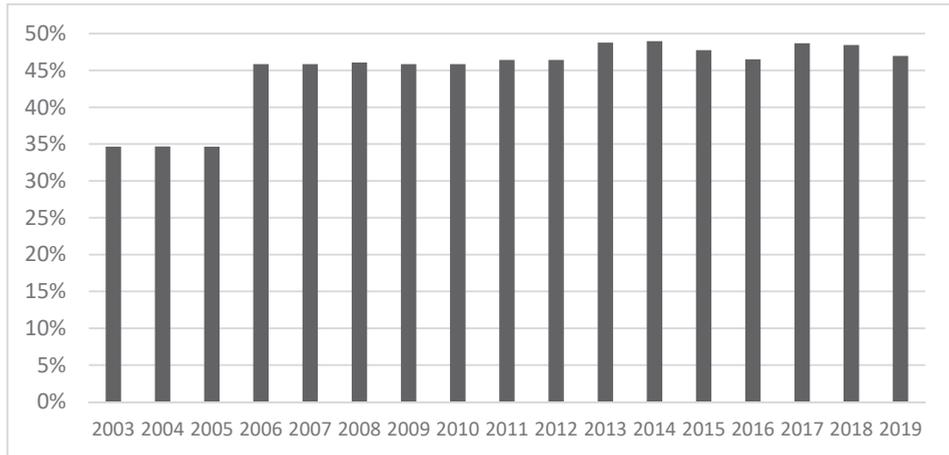


Source: Authors' calculation

This increase was primarily due to the increase in the minimum pension since the beginning of 2006, followed by a series of minimum pension increases and

‘special’ payments for those on a minimum pension (Figure 3). In recent years the minimum payment has been almost 50% of the full pension of an average worker.

Figure 3: Minimum pension payment relative to pension of average full-career worker



Source: Authors’ calculation. Note: Minimum pension payment includes minimum pension and other payments topping up minimum pension.

The prospective net RR shows a substantial decline over the future decades, the extent of which depends on the macroeconomic assumptions adopted; the more pessimistic the assumptions, the slower is the decline likely to be. Therefore, scenario 1 (Table 4) using OECD macroeconomic assumptions of only 1.25% real wage growth shows the lowest decline.

Table 4. Prospective net RR, various scenarios

| | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | 2055 | 2062 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Scenario 1. | 56.5% | 53.1% | 49.9% | 46.9% | 44.1% | 40.9% | 39.0% | 36.6% | 33.6% |
| Scenario 2. | 56.5% | 50.0% | 44.2% | 39.0% | 34.5% | 30.5% | 27.0% | 23.8% | 20.0% |
| Scenario 3. | 56.5% | 48.8% | 42.1% | 36.3% | 31.3% | 27.0% | 23.3% | 19.5% | 16.3% |
| Scenario 4. | 56.5% | 51.3% | 46.5% | 42.1% | 38.2% | 34.6% | 31.4% | 28.5% | 24.8% |
| OECD methodology | 63.6% | 59.8% | 56.2% | 52.8% | 49.6% | 46.6% | 43.8% | 41.2% | 37.8% |

Source: Authors’ calculation

Source: Authors' calculation. Note: See section 3 for assumptions; the first four scenarios are calculated for a 40 years' long career, while the fifth calculation (OECD methodology) gives the RR for 45 years of service.

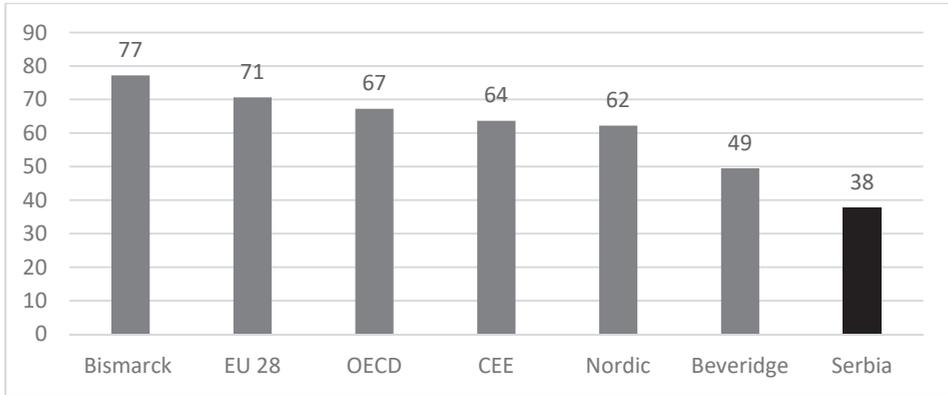
The long-term projections for those entering the labour market in their 20s are not particularly realistic, but are calculated by the OECD method to illustrate the effects of current legislation and for comparison with other countries. In this long perspective under the current legislation, Serbia would have the lowest net RR among all EU and OECD countries including Beveridge countries, apart from the UK (Table 5 and Figure 4).

Table 5: Prospective net RR (male): Serbia in international comparison in 2062

| | Pension age | Net RR | | Pension age | Net RR |
|-----------------|-------------|-------------|------------------|-------------|-------------|
| Austria | 65 | 91.8 | Australia | 67 | 42.6 |
| Belgium | 65 | 66.1 | Canada | 65 | 53.4 |
| France | 64 | 74.5 | Ireland | 68 | 42.3 |
| Germany | 65 | 50.5 | Japan | 65 | 40.0 |
| Greece | 62 | 53.7 | New Zealand | 65 | 43.2 |
| Italy | 71 | 93.2 | Netherlands | 71 | 100.6 |
| Luxembourg | 60 | 88.4 | Switzerland | 65 | 44.9 |
| Portugal | 68 | 94.9 | United Kingdom | 68 | 29.0 |
| Spain | 65 | 81.8 | United States | 67 | 49.1 |
| Bismarck | 65 | 77.2 | Beveridge | 67 | 49.5 |
| Czech R. | 65 | 60.0 | Denmark* | 74 | 80.2 |
| Estonia | 65 | 57.4 | Norway | 67 | 48.8 |
| Hungary | 65 | 89.6 | Sweden | 65 | 54.9 |
| Latvia | 65 | 59.5 | Finland | 68 | 65.0 |
| Poland | 65 | 38.6 | Nordic | 69 | 62.2 |
| Slovak R. | 68 | 83.8 | | | |
| Slovenia | 60 | 56.7 | | | |
| CEE | 65 | 63.7 | Serbia | 65 | 37.8 |

Source: OECD (2017); Authors' calculation for Serbia. Note: OECD methodology, RR for those entering the labour market in 2017. * Denmark RR is high due to the significantly longer years of service and the occupational scheme included in the calculation.

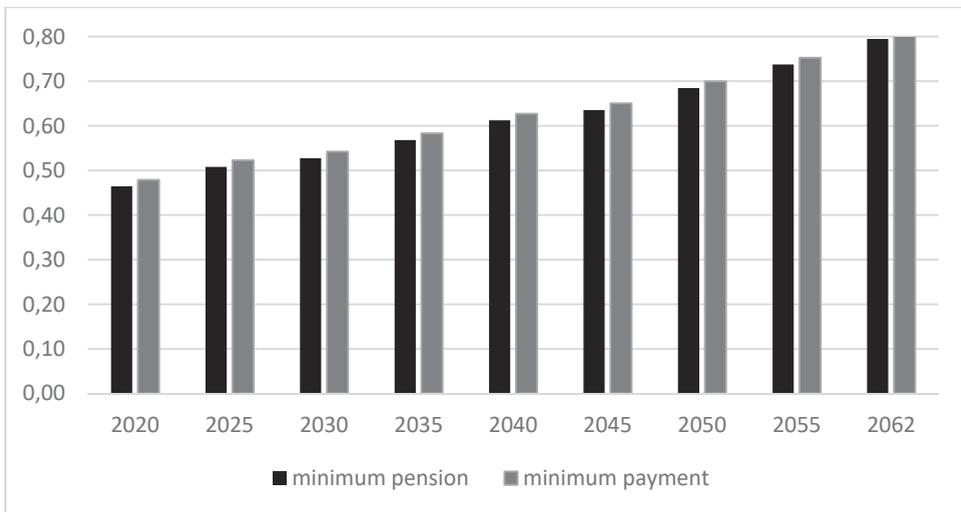
Figure 4: Prospective net RR – groups of countries and Serbia



Source: OECD (2017); authors' calculation for Serbia

A long-term projection shows that the minimum pension will soon reach above 50% of the average full-career worker's pension if nothing changes in the current legislation. For illustration, Figure 5 presents an option including the 'special payment' that is currently in force.

Figure 5: Projection of minimum pension and minimum payment relative to pension of average full-career worker under current legislation



Source: Authors' calculation for Serbia. Note: EC-ISG methodology (full-career worker, 40 years of service) and OECD macroeconomic assumptions (1.25% real wage growth and 2% CPI)

5. CONCLUSION – A SILENT BREAK WITH BISMARCK

The Serbian pension system has undergone major changes over the last two decades. Some changes have been consistent with the core logic of the Bismarck model, some were implemented in line with contemporary requirements, and some clearly indicated a departure from Bismarck. The first group, present in the first reform phase, includes reforms such as the shift to a points system and other changes that resulted in a tighter link between contributions and pensions. Harmonisation of eligibility requirements across social strata and consolidation of separate pension funds belongs to the second group. The third group, starting in 2005, includes changes that resulted in reduced replacement rates and the delinking of pensions and earnings. These changes indicate a shift towards a completely different model (Beveridge) in which the primary objective of the public pension scheme is poverty prevention, and in which post-retirement income maintenance is provided through private pension schemes.

The presented analysis clearly demonstrates these tendencies. Net RR declined from almost 90% in 2003 to around 61% in 2019. The pension variation indicator shows a significant increase in vertical redistribution, from 26.7% in 2003 to over 40% after 2006 and to more than 50% during the ‘temporary’ reduction of higher pensions in 2015–2018. Similarly, in 2025 the minimum pension payment relative to the pension of the average full-career worker will be above 50%. Bearing in mind that the minimum pension is paid to those with only 15 years of service, this implies a substantial redistribution toward those with a small number of years of service.

The prospective net RR shows a substantial decline over the next ten years if existing legislation stays in force, while this decrease will be dramatic in the long run. For illustration, if nothing changes in the existing legislation, those that entered the labour market in 2017 at 20 years old and retire at 65 will have a net RR of only 38% under the assumption of 1.25% real wage growth and 3% real GDP growth. This would be a lower RR than in almost any EU or OECD country, even lower than the average RR in Beveridge-type systems, which average 50%.

Why does this matter? Both models – Bismarck and Beveridge – exist and both are constantly reforming, pursuing financial sustainability and pension adequacy. Is one system (Beveridge) better than another (Bismarck)? Does it provide a

better response to the challenges facing modern welfare states, or better social protection? The answers to these important questions form a separate topic, beyond the scope of this paper, and are partly ideological issues (Barr, 2012). However, what is certain is that such a shift is progressing silently, without consensus and without informing the public, and perhaps even without an understanding of the true extent of the changes and its consequences.

A few issues related to non-transparency and high transitional costs stand out. *First*, the silent transition from an income maintenance model to a poverty prevention model has precluded any expert or stakeholder debate about such an important change and its consequences, above all regarding the winners and losers in this transition. *Second*, if it is decided to change to a poverty prevention model, the general public should be made aware of the fact that in the future the public pension system will only provide a minimum old-age income and that additional savings will be required to secure an acceptable standard of living. *Third*, the shift should be made explicit, since it entails additional adjustments in the public pension tier. For example, in line with the Bismarckian model and the public system's objective of income maintenance, the maximum amount of earnings subject to social security contributions is very high. In a poverty prevention public model the ceiling is lower, allowing higher earners to invest more in private retirement plans. *Fourth*, older workers approaching retirement age cannot adapt to such a significant paradigm shift. These generations have neither the time nor the financial capacity to make additional savings, partly due to the high contributions they have already invested in the mandatory tier. This argument implies a transitional cost, as in the case of carve-out privatisation. *Finally*, in the EU there is an increasing demand for reform transparency and better information on future pension claims, regarding both public and private schemes (Wichhorst et al., 2011).

In addition to this non-transparent structural change, our analysis demonstrates that since 2005 there has been another extremely unfavourable trend involving the reinforcement of uncertainty, primarily with respect to pension indexation: "formulas that changed so frequently that they were never truly implemented" (Government of the Republic of Serbia, 2018: 233) and regulation of pension indexation through the Budget System Law, first tacitly and later explicitly. Overall, the 'patchwork' of reforms and measures taken so far have not been part

of a coherent strategy; some of the measures are inconsistent, justified by opposing arguments, and occasionally concentrated only on the expenditure side (Matković, 2016).

Our analysis suggests the necessity of re-addressing strategic issues – above all, whether the main objective of a public pension system should be income maintenance or poverty prevention. Other related dilemmas include re-examining the level of intra-generational redistribution in the public system, the role of private pensions, and the potential status of social pensions and other non-contributory benefits vis-à-vis insurance within the social protection system. With regard to parametric changes, potential reforms primarily include the automatic linking of retirement age with life expectancy, additional measures to demotivate early withdrawal from the labour market, tightening conditions for accelerated benefits, and re-examining the concept of farmer pensions.

Finally, it should be noted that further stabilisation of the pension system crucially depends on employment, labour force participation, and productivity growth, and requires a reduction in the informal economy as well as a strengthening of fiscal discipline.

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