Lost between Sustainability and Adequacy: Critical Analysis of the Croatian Pension System's Parametric Reform

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Nowadays, when faced with aging societies, family structure changes, labour market transformations, non-standard employment arrangements, shadow economy, financial and economic crisis, many are worried about the two basic issues: pension systems' financial sustainability and benefit adequacy (both short-term and long-term). Therefore, almost all countries in the world made some changes to their pension systems. The situation is even more aggravated in countries with high budget and pension system's deficits, unfavourable dependency ratios, long-term negative natural increase rates, low employment and high unemployment rates. Unfortunately, Croatia suffers from all these problems. Therefore Croatian pension system has undergone many reforms: one systemic reform (from 1998 to 2002 which resulted in the establishment of the three-pillar pension system), and several parametric reforms, the last one encompassing all three parts of the pension system (2013-2015). The purpose of the paper is to provide legal analyses of this last parametric reform in the light of sustainability and adequacy concerns with some inevitable reminders of the previous reform solutions. The author reveals many inconsistencies and lack of prudence in legislator's approach, which in the long-term potentially endangers both the financial sustainability and benefit adequacy. Moreover, numerous and frequent legislative changes coupled with the existence of many groups of privileged pensioners raise further concerns regarding predictability, stability, efficiency and fairness of the pension system as well as trust in the national government. Furthermore, the author warns that only part of the solutions lies within the pension system itself (through more thoughtful adjustments). Those changes should be complemented by other strategies outside the pension policy (e.g. within the health care system, tax system and labour market regulations).

Key words*:* Croatia, pensions, pension reform, sustainability, adequacy.

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INTRODUCTION[1]

Since the late 20th century, predominantly due to population aging, economic turmoil, changes in the labour market and thereto related changes in the employment leading to more atypical jobs and non-standard employment careers, the adequacy and sustainability concerns gained prominence among a wide circle of scholars and collective actors (such as the European Commission, World Bank). The existing organization of public and private pension schemes has been compromised and major reforms began, transferring more responsibility from the state and employers to individuals (Vukorepa, 2012: 350). In the period from the 90's to date, many reports show that almost all of the EU; OECD, BRICS (Brazil, Russia, India, China, South Africa) as well as other countries have undertaken some type of reform within their public and private pension schemes (e.g. World Bank, 1994, 2000; European Union, 2003; OECD, 2008, 2009, 2011, 2013; ISSA, 2013).

The reforms differ in terms of their extent, from parametric changes within the existing pension systems to more comprehensive, systemic reforms. In order to promote general economic liberalization, the World Bank and the International Monetary Fund supported systemic reforms of the defined benefit pay-as-you-go (PAYGO) systems, directing them towards privatization and the establishment of a multi-pillar system (public-private mix) with defined contribution funded parts (World Bank, 1994, 2000; Barr and Rutkowski, 2005). This type of reform has been advocated mostly in Latin America and Central and South-eastern Europe, where due to the long presence of the socialist regime, private pensions have not been developed, unlike in other countries of the West. Furthermore, primarily due to demographic changes (increased life expectancy, improvements in mortality and low fertility rates), many countries have also been undertaking parametric reforms. These predominantly relate to linking pensions to changes in life expectancy by increasing retirement age and providing incentives to work longer. Other parametric reforms are aimed at long-term reduction in public pension spending through sustainability factors introduced into benefit calculation (e.g. early retirement decrements, changes in pension valorisation and indexation). There are also measures aimed at better pension adequacy (e.g. through increases in minimum pensions or social pensions, or by supporting supplementary pension systems by various tax advantages), (Vukorepa, 2012: 94-161).

Another round of reforms has been more recently caused by 2008 financial and economic crisis. The concerns about fiscal deficits and macroeconomic imbalances, prevailing currently in the EU,[2] resulting often in strict austerity agenda, brought new or more accelerated changes, mainly sustainability and financial-affordability oriented. It has been reported that some countries increased taxes on pension income or contributions to public defined benefit schemes. Widely used methods to mitigate spending are: 1) reduction of benefits (while maintaining or improving the

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[2] For more see: Europe 2020 strategy, Stability and Growth Pact and its »preventive arm mechanism« through stability and convergence programs and »corrective arm mechanism« in the form of Excessive Deficit Procedure; in addition there is also a Macroeconomic Imbalance Procedure, that is a surveillance mechanism for the identification of potential risks early on, trying to prevent the emergence of harmful macroeconomic imbalances and correct the imbalances that are already in place.

retirement–income adequacy for vulnerable groups), 2) more unfavourable indexation formulas and deferrals or moratoria to indexation, 3) more accelerated increases in the statutory retirement age (thereby trying to enlarge the contribution base while preserving adequacy for those effectively working longer), and 4) work incentives through tighter access to early–retirement and increased financial incentives to work, (OECD, 2014: 54-69; Hinrichs, 2015). The post-2008 pension reforms are perceived as »rapid policy changes«, that would not have been politically feasible otherwise (Hinrichs, 2015). In some Central and East European Countries, the multi-pillar path that had been entered before, was reconsidered or even completely abandoned. These were immediate measures directed towards the reduction of PAYG schemes deficit and reduction of public debt, thereby shifting obligations at the later stage which all increase the so called »implicit debt«, i.e. the present value of future pension promises (e.g. Hinrichs, 2015: 20; OECD, 2012: 77-98). Moreover, it has been predicted that the consequences of such pension reversals will be borne by individuals in the form of lower benefits in retirement (OECD, 2012: 95-96). Since 2012, some countries have increased mandatory contributions to funded defined contribution schemes (OECD, 2014: 54). The problem with this measure is that it might increase the so called »transition cost« if done at the expense of defined benefit mandatory schemes (Vukorepa, 2012: 155). Therefore, in the aftermath of the financial crisis, policies to increase pension adequacy from funded parts are especially important. Quite common were measures to improve diversification and security of investment, governance of pension funds, as well as changes to curb pension administration costs (OECD, 2014: 54, 63).

Croatia has also undertaken many reforms in the last two decades: one systemic reform (from 1998 to 2002 which resulted in the establishment of the three-pillar pension system), and several parametric reforms, the last one encompassing all three parts of the pension system (2013-2015). The system has been torn apart between sustainability and adequacy issues, while its stability and the trust in the national government has been jeopardized by numerous changes, especially regarding the 1st pillar (PAYGO, underfunded, defined benefit pension scheme). From 1998 to 2013, it was amended 18 times, and from 2013 to 2015, three times already. Other two, mandatory and voluntary funded defined contribution schemes have also undergone some changes.

The aim of this paper is to provide legal analyses of the main reform trends in the light of sustainability and adequacy issues and reveal the inconsistency in the legislator's approach. The focus will be on the 2013-2015 reform regarding mandatory part of the Croatian pension system, however with some inevitable reminders on past reform solutions. The rest of the paper is organized as follows: the next chapter gives a short overview of some theoretical considerations. The third chapter provides a general description of the current Croatian three-pillar pension system and its main features as to give the reader a better understanding of the reform context. The fourth chapter addresses the issue of reform trends into more detail. The reform measures (e.g. increase of retirement age, benefit formula changes, new types of early exits, indexation etc.) are clustered and analysed from the sustainability and adequacy perspective. The author points to the inconsistency in the approach and specifies many countermeasures within the pension system and outside. The final chapter presents main concluding remarks and indicates pathways to adequacy and sustainability concerns, not just within the pension system itself, but on a much wider scale (e.g. within the health care system, tax system and labour market regulations) requiring thus fine tuning and more coordinated legislative approach and strategic actions.

BASIC THEORETICAL CONSIDERATIONS

The pension system is a very important part of every country's social security system because it is supposed to prevent old-age poverty and replace life time earnings. It can be organized in various ways regarding different elements such as the type of providers, coverage, financing, benefit's purpose, benefit's formulas, redistribution levels, risk sensitivity, etc. (Vukorepa, 2012: 165-186). However, every pension system, be it mono-pillar or multi-pillar, comes down to the **fundamental question: how much are economically active persons willing to pay for their needs and the needs of others at present and in the future**. Solving this problem is complex and involves a number of factors that should be taken into account, both at the individual and collective level. The **individual perspective** changes with aging. While transiting from being an insured person to becoming a pensioner, we are more and more concerned about the adequacy of our future pensions. At the **collective level**, pension system regulation depends on demographic, economic, social and political determinants of the society, and sometimes even has a negative impact on some of them. Furthermore, there is a **collision between the logic of long-term liabilities and the logic of changing policies**, which is typical for parliamentary democracies. On the one hand, the time dimension requires sustainability and continuity; however, the political dimension very often contradicts it, because it is subject to variable social pressure and political pacts: namely, pensioners and those close to the retirement age are the largest group of voters.

Most problems in the pension world are believed to be connected to the changes in the population structure, specifically age structure, that has major impact on the economy, labour force and social welfare system, hence also on the pension systems. Population structure is affected by demographic changes in fertility, mortality and migration, each of them having different time impact (Murphy, 2011). Hence, it is widely accepted that several demographic trends have affected spending in the pension systems, especially in PAYGO, such as: decline in fertility, mortality improvements and increased life expectancy, weakening of family ties, and increase of female labour force participation (Profeta, 2011).

Some scholars see **public pension systems, children and financial markets as different instruments to insure old-age income** (e.g. Cigno, 2011:111-112; Profeta, 2011: 26). Therefore, it has been suggested that those three should be analysed together. Further, it is argued that the size of the pension system has a negative effect on fertility, as well as the development of capital markets. Thus public pension systems that are under-funded are also financially unsustainable because they tend to erode the tax and contribution base on which they rest (Cigno, 2011: 113). In relation to that, it is suggested that when saving is more costly, individuals rely more on fertility, therefore one could interestingly predict a potential role of recuperation in fertility in the countries where pension reforms have decreased their generosity (Profeta, 2011:25).

Further on, as already indicated above, apart from the changes in the population structure, other important transformations have affected pension systems, such as slower economic growth, labour market transformations and thereto-related changes in the employment leading to more jobs that are atypical and non-standard employment careers. Hence, the **problems of pension adequacy** (referring both to the absolute level of preventing old age poverty and to the relative level of replacing life – time earnings) and **sustainability of pension systems** (referring to its financial soundness) gained prominence among a wide circle of scholars and collective actors, such as the European Commission, World Bank and OECD. In addition to adequacy and sustainability, the World Bank applies other two important criteria for evaluating public pension systems, namely the **affordability** referring to the financing capacity of individuals and society, and **robustness** referring to the capacity of the pension system to withstand major shocks in order to sustain income replacement targets over long term (Holzmann and Hinz, 2005: 55-57). In addition, the **safety** criteria should also be emphasized, especially in relation to funded parts of the multi-pillar pension systems (e.g. the European Commission, 2012). Furthermore, since all types of pension systems are actually long-term obligations, one should not neglect the importance of retaining/ regaining the confidence in the pension systems through its **fairness, stability and predictability** (Vukorepa, 2012: 191-209). Coming back to the sustainability and adequacy concerns and the theoretical prism through which we will primarily observe the Croatian pension system, they both depend on the degree to which they are underpinned by contributions, taxes and savings from people in employment. Therefore, the European Commission (2012: 3-4) warns EU Member States that financing arrangements, eligibility conditions and labour market conditions must be calibrated in such a way that a balanced relation between contributions and entitlements, and between the number of employed contributors and the number of retired beneficiaries, can be achieved.

Regarding entitlements, another potential problem within the pension system may represent the benefit formula and the extent to which individual benefits match individual contributions. Thus we can differentiate between: 1) persons receiving **actuarially fair benefits**, 2) persons receiving **implicit pension subsidy**, when capitalized value of their contributions is lower than the expected value of the pension benefits), 3) person paying **implicit pension tax**, when capitalized value of contributions is higher than the expected value of the pension benefits (Cigno, 2011: 108-109). Therefore, if the benefit formula is redistributive, some will enjoy an implicit pension subsidy, and others suffer an implicit pension tax, irrespective of the pension fund's assets – liabilities ratio (Cigno, 2011:109). If the system is underfunded, and if the redistributions level of the systems stays at the same level, transfers from the state budgets will be necessary, potentially increasing fiscal deficits. Thus, the **question of redistribution involves a dilemma how to share the financing burden more fairly across generations and between the same generations**. Switching partially to funding makes pension systems financially more sustainable and actuarially fair (because everybody pays for their own pension), but not necessarily with an adequate level of pension benefits due to e.g. the problem of low wage earners, career breaks, investment risks, longevity risk (Vukorepa, 2012: 179-186).

The question of **pension adequacy** is a difficult one. Firstly, there is a question of how much is enough. The answer depends on the objectives, i.e. income replacement and/or poverty reduction, thereby bearing in mind that different parts of the pension system might have different objectives. One should also take into account other factors within the society (e.g. housing and utilities costs, structure of ownership of dwellings, free or cheaper public services for the elderly in the public sector, especially health care and public transportation, trends in savings, preferential taxation regimes) which may all increase the actual level of income in the old age. Secondly, there is a question of how to measure the adequacy of pension benefits: in relation to individual earnings (prior to retirement, or average earnings), economy wide average earnings, necessary household costs etc. There are several forms of **individual and aggregate measurements**.[3] However, since I will not empirically test the adequacy of the Croatian pension system, I find it not necessary to elaborate more on those various measurements.

The **problem of sustainability** of public pension systems could be solved in several ways, although not all the solutions are likely to be considered as acceptable within a certain country. Firstly, by **higher contributions or taxes,** which might lead to increases in production costs, thus impairing the competitiveness and lowering the net wages. Secondly, by lower pensions, that adversely affects the benefit's adequacy. Thirdly, by measures aimed at achieving a **more favourable pension system's support ratio** (contributor/pensioner's ratio). It is well known that the third option can be brought about in several ways: 1) increases in employment rate, 2) reduction of the number of unemployed, 3) earlier entry into the labour market (which is doubtful taking into account longer duration of education nowadays), 4) increased participation of women in the labour market (which requires establishment and proper functioning of other social institutions for taking care of children and other frail relatives), and 5) prolongation of working lives by increasing retirement age. In order for people to be really able and stimulated to work longer, what matters is how the pension system affects their individual behaviour, and this does not depend on a single feature of a system (e.g. statutory retirement age), but on its overall architecture (Cigno, 2011). Hence reforms within and outside of the pension system are needed.

Among **measures within the pension system, the** widely recognized ones are: 1) abolition or reduction of special early retirement schemes, 2) lifting of the earliest retirement age, 3) closer contribution – benefit link that will reduce the so called »implicit tax« on longer working lives, 4) actuarially fair deductions for early exits and increases for late exits, 5) tightening access to disability pension. Nevertheless, when taking these measures one has to be cautious, because changes in the sphere of family, labour market and welfare state

[3] Forms of individual adequacy measurements are e.g. replacement rate in the form of individual net pension entitlement divided by average life-time earnings or individual net pension entitlement divided by net pre-retirement earnings; relative pension level as individual pension level divided by economy-wide average earnings, theoretical replacement rate for hypothetical with certain characteristic regarding wage and career length, etc. There are also many forms of aggregate measurements such as median relative income of elderly people (income situation of those aged 65 and more relative to the younger age group 64 and less), aggregate replacement ratio (as median individual gross pension relative to the median individual gross earnings) etc. For more see: European Commission, 2012; Vukorepa, 2012: 191-202; Nestić i Tomić, 2012: 63-67.

restructuring (due to technological changes, globalisation, de-standardisation of employment, demographic aging, single parenthood) resulted in the emergence of »new social risks« (such as low or obsolete skills, atypical jobs, insufficient coverage through social protection schemes), consequently leading to the problems of the working poor, enforced early exits and pockets of poverty (Hinrichs and Jessoula, 2012: 5-6). In these cases, strengthening of the redistributive measures (means tested or more universalistic) could be crucial for effective economic security in the old age.

Moreover, it is rightfully argued that more than retirement policy is needed to make higher retirement age a viable coping strategy. **Complementary measures outside the pension system** need to be developed, such as: 1) high overall employment level that improves the labour market absorbing capacity for older workers, 2) measures towards actual employability of older workers, 3) measures preventing and/or overcoming age related declines in the ability to work depending on occupational differences, 4) jobs that are tailored to the functional capacities of the individual worker, 5) employee recruitment and dismissal strategies, 6) family policies and educational policies including training opportunities for older workers (Hinrichs, 2011).

Consequently, by taking into account all these various theoretical considerations, it is obvious that the success of reform measures depends on the overall architecture of the pension system, as well as on other economic and social determinates within societies.

MAIN FEATURES OF THE CROATIAN PENSION SYSTEM

Before 1998 the Croatian system used to be one-pillar PAYGO defined benefit (DB) system with roots in Bismarckian social insurance model, characterised by a very low retirement age, for old age 60 for men and 55 for women, and for early retirement 55 for men and 50 for women (Puljiz, 2007; Baloković, 2011: 109-110). Due to the problems of transitional economy and wartime sufferings, a large number of socially vulnerable persons (especially the unemployed and the disabled) tried to find their security within the pension system. This created an unsustainable financial pressures and the need for change. Thus, in 1998 the first significant parametric reform was implemented, focused on rationalization and control of pension costs. It included the gradual raising of the retirement age (during 10 year period, 6 month per calendar year), establishment of restrictive disability criteria, changes in the pension formula and modifications in indexation rules from wage indexation to combined indexation: 50% wage: 50% prices (Potočnjak, 1999, 2000a, 2000b). The Pension Insurance Act of 1998 also laid the foundation of the systemic reform, which continued in 1999 and was implemented in 2002, when a mixed three pillar pension system became operational consisting of PAYGO defined benefit and funded defined contribution schemes.

As already indicated in the introductory part, since 1998 **the legislative framework has been amended and changed on too many occasions.** Currently it consists of many laws and by-laws.[4] **The first pil-**

[4] At the end of 2013, the new parametric reform has been undertaken. It came into effect at the beginning of 2014 when four new laws regulating three pillar pension system entered into force: 1) Pension Insurance Act (NN 157/2013, 151/2014, 33/2015), 2) Act on Compulsory Pension Funds, NN 19/2014), 3) Act on Voluntary Pension Funds (NN 19/2014), and 4) Act on Pension Insurance Companies (NN 22/2014). Apart from Pension

lar is a PAYGO defined benefits (points system) scheme. It is financed by contributions and the deficit is financed by the State Budget, hence indirectly by taxes and other Government transfers (in 2014 the deficit was HRK 13.984 billion).[5] **Other two pillars are fully funded defined contribution schemes** based on individual accounts (financed by contributions and investment returns). The second pillar is mandatory, while the third pillar is a voluntary supplementary scheme. Within the third pillar, two types of voluntary pension funds can be established: 1) »open-ended pension funds« (open to all citizens), 2) »closed–ended pension funds« (sponsored by employers, trade unions or other professional associations, hence participation is only allowed to employees or members respectively). There are no occupationally defined benefit schemes.[6] Within the mandatory second pillar, participants can save only within one mandatory pension fund on their individual account, but within the voluntary third pillar, saving in more pension funds is allowed.[7] Regarding **administration and supervision** of the pension system, there are several public and private stakeholders depending on the type of the scheme.[8]

Regarding **coverage, the** first pillar is a very broad one. Compulsory insured are all economically active persons, but also some others (e.g. volunteers and apprentices, farmers, as well as a parent of a small child up to 1 year or care-needy child

Insurance Act there are also other important laws regulating first PAYGO scheme. These are: 1) Maximum Pension Act (NN 162/1998, 82/2001), 2) Act on Pension Supplement for Pensions Earned under the Pension Insurance Act (NN 79/2007, 114/2011); 3) Act on the Insurance Periods Counted with Extended Duration (NN 71/1999, 46/2007, 41/2008, 61/2011). Other laws (all together 18 of them), relate to contribution payment, taxation, and regulation of more favourable pension conditions for 14 special groups of insured persons.

[5] Calculated on the basis of the data on revenues from pension contributions (HRK 22.493 billion) and expenditures for pension benefits (HRK 36.477 billion), Amendments of the State Budget for 2014 (NN 141/14).

[6] However, since accession to the EU (pursuant to Art. 30 of the Amendments to the Act on Compulsory and Voluntary Pension Funds, NN 124/10) voluntary pension funds established in Croatia may manage occupational defined benefits pension plans in other EU Member States. It is important to note that the new Act on Voluntary Pension Funds (NN 19/2014) prescribes in Art. 266. the following: » *(1) A pension company may establish and manage a defined benefits closed-ended pension fund for the sponsoring employer of other Member States, if the establishment of such types of pension funds is permitted by the law of that Member State. (2) In the Croatian territory a closed-end defined benefits retirement plans cannot be offered*«.

[7] Act on Compulsory Pension Funds, NN 19/2014, Arts. 90, para. 3; Act on Voluntary Pension Funds, NN 19/2014, Art. 114, para. 2.

[8] The general competent authority is the **Ministry of Labour and Pension System** that is in charge for legislative proposals and general supervision of the functioning and implementation of all parts of the pension system. The **Croatian Pension Insurance Institute** (HZMO) administers the PAYGO pillar. For the operation of the second pillar important is **Central Registry of Affiliates** (REGOS), because it keeps record of the personal accounts and is responsible for the transfer of paid contributions to the chosen mandatory pension fund. **Pension companies** operate the funded part of the system in the accumulation phase**.** Regarding organization of pension companies and their **permissibility to manage pension funds**, in 2014 Croatia transferred from the model of exclusive management (meaning one mandatory pension company for managing one mandatory pension fund), to the non-exclusive model (now can one pension companies manage both mandatory and voluntary pension funds). The second pillar pensions can still be paid only by the **pension insurance companie**s, but since 2014 pensions from the voluntary third pillar can be also paid by **other legal entities** (such as pension companies and UCITS investment fund companies), provided they have obtained special authorisation (Act on Pension Insurance Companies, NN 22/14, Art. 9). **Croatian Financial Services Supervisory Agency** (HANFA) supervises business operations and carries procedure of granting authorizations for pension companies and pension insurance companies.

if not covered on the bases of economically active status).[9] Persons insured under the first pillar are normally also insured under the second pillar. However, regarding participation right in a multi-pillar system there are three situations that should be differentiated: 1) all persons under the age of 40 (either at the time of the reform or at the time of becoming an insuree) have to participate within the two-tier mandatory system double coverage; 2) persons aged between 40 and 50 at the time of the reform could choose between staying within the PAYGO scheme only or joining the new two-tier mandatory system with the second pillar funded part,[10] and 3) persons over 50 had to remain within the first pillar only. The third pillar is open to all persons, regardless of their age and employment status.[11]

For many years, the PAYGO scheme has been suffering from a **very high dependency ratio**, now amounting to 87.57 percent, with only around 1.39 million contributors (»insurees«), and 1.22 pensioners (more detailed historic data in Table 1).

Table 1
System dependency indicators of 1st pillar pension scheme

Year (end of the period)	Contributors	Pensioners	Dependency ratio, %	Support ratio
1950	593,102	67,771	11,43	8.75
1960	912,290	176,978	19,40	5.15
1970	1,166,088	340,134	29.17	3.43
1980	1,518,049	438,133	28.86	3.46
1990	1,682,971	594,339	35.31	2.83
2000	1,380,510	1,018,504	73.78	1.36
2010	1,475,363	1,200,386	81.36	1.23
2011	1,468,133	1,213,121	82.63	1.21
2012	1,432,740	1,217,692	84.99	1.18
2013	1,400,631	1,190,815	85.02	1.18
2014	1,397,400	1,223,738	87.57	1.14

Source: Croatian Pension Insurance Institute.

[9] Pension Insurance Act, NN 157/2013, 151/2014, 33/2015, Arts. 9-21; Social Assistance Act, NN 157/13, 152/2014), Art 67 (for parent-caregiver)

[10] The choice of the system was permanent for persons between the age of 40 and 50 and could not be changed until legislative amendments in 2011. These amendments allowed for the opt-out from the second pillar scheme during the pension take-up period, if the pension from the first pillar would be more favourable than the one from the two-tier system.

[11] Old legislation: Act on Mandatory and Voluntary Pension Funds (NN 49/1999, 63/2000, 103/2003, 177/2004, 140/2005, 71/2007, 124/2010, 114/2011, 51A/2013, 19/2014, Art. 40 and 105); new legislative basis: Act on Compulsory Pension Funds, NN 19/2014, Arts. 90, 104; Act on Voluntary Pension Funds, NN 19/2014, Art. 3, 114-120.

The number of individual accounts within the second pillar is higher that the number of contributors in the first pillar (at the end of 2014 it was 1,702,218), which can be explained by the fact that employed persons when becoming unemployed continue keeping individual retirement accounts as inactive until new employment or self-employment. Despite some State financed incentives, the number of persons saving within the voluntary third pillar is slowly increasing (see Table 2).

Table 2

Membership in various types of pension funds – 2nd and 3rd pillar

Type of Pension Fund	2010	2011	2012	2013	2014
Pillar II Mandatory	1,561,454	1,604,336	1,652,802	1,702,218	1,705,720
Pillar III Open Voluntary	169,841	184,100	190,994	204,546	220,507
Pillar III Closed Voluntary	17,613	18,153	23,146	22,685	23,924

Source: Croatian Financial Services Supervisory Agency.

Total **contribution rate** for mandatory pension insurance is 20 percent. Persons covered only by PAYGO scheme pay all contributions only to the first pillar, while persons insured under both pillars pay 15 percent to the first pillar and 5 percent to the second pillar. For persons employed in hazardous and physically strenuous jobs, there are additional contributions. These employees have the right to extended period of insurance and lower retirement age.[12] The contribution is paid from employee wages or from the »pension insurance base« (for self-employed persons and some other categories). The minimum monthly contribution base is 35 percent and the maximum is 600 percent of the average salary,[13] however the regular maximum pension is capped at 380 percent of the average earnings (thus some of those persons can be considered as paying implicit pension tax[14]).

Regarding **tax policy**, tax-exempt are contributions paid for mandatory pension schemes. Since 2010, it has partially also applied to the third pillar pensions. Namely, employers matching contributions to the voluntary individual account are not subject to income tax up to HRK 500.00 per month or the total of HRK 6,000.00 per year. Furthermore, in order to encourage savings within the third pillar, the state is subsidizing voluntary contributions by 15% of the amount of the contributions actually paid (incentive can be awarded

[12] Contributions Act, NN 84/2008, 152/2008, 94/2009, 18/2011, 22/2012, 144/2012, 148/2013, 41/2014, 143/2014, Art. 13; Act on the Insurance Periods Counted with Extended Duration, NN 71/1999, 46/2007, 41/2008, 61/2011.

[13] For the purpose of counting of the minimum and maximum contribution bases national average salary is counted for the first 8 months of the previous year (Contributions Act, Art. 7, para 1., point 39) .

[14] Some of the persons with contribution base ranging from 380 to 600 percent of the average wage will not pay an implicit pension tax, because the maximum pension is calculated on the basis of average value points during entire insurance period (showing the ratio between gross or net average person's earnings compared and the average national earnings). Average value points are capped at 3.8 (hence 380% of average earnings). Since only a few person have such high incomes (hence also contribution base) thought-out their insurance period, only those whose pension amount is actually limited by maximum pension can be considered paying implicit pension tax. They amount to approximately 0.3% of all the pensioners (Croatian Pension Insurances Institute, Statistical Information).

for contributions in the maximum amount of HRK 5,000.00 per year; so the maximum incentive amounts to HRK 750.00 annually).[15] Pensions in payment from the mandatory schemes are taxed; however, under preferential regime because there is a higher non-taxable portion of the income (so called "basic personal allowance") for pensioners than for wage earners and the self-employed (more details in the next chapter). The third pillar pensions in payment are normally tax-exempted; only the third pillar pensions are partially taxed proportionally to the tax relief awarded during accumulation phase when contributions were paid.[16]

The **payment of pension benefits** for persons participating in two-tier system (the first and second pillar) is based on two distinct financial channels, unfunded (PAYGO) defined benefit scheme and funded defined contribution scheme. Hence, the pension benefits are also calculated differently. The first pillar pension depends on several elements: years of insurance, wages (contribution base) compared to average wage, age of retirement, pension type, pension valorisation and indexation, and since 2014 on the average contribution rate for the first pillar pension compared to the total contribution rate for mandatory pension insurance.[17] The legislative framework also provides for the minimum pension (without means testing) and maximum pension.[18] Contrary to such defined personal points system, pensions from funded part

[15] Before 2010, incentives for savings within the third pillar were higher, up to 25 percent of paid contribution of maximum HRK 5,000, hence maximum incentive amounted to HRK 1,250.00 per annum (Vukorepa, 2011: 100-101).

[16] Income Tax Act of 2004 with latest amendments from 2014 (NN177/2004, 73/2008, 80/2010, 114/2011, 22/2012, 144/2012, 43/2013, 120/2013, 125/2013, 148/2013, 83/2014, 143/2014), Arts. 9, 10, 31 and 36.

[17] All these elements are reflected in the pension formula that is a product of personal points, pension factor, actual pension value and the average ratio of contributions paid to the first pillar scheme in relation to the total mandatory pension contribution rate. **Personal points** are calculated in the manner that the average value points are multiplied with the insurance period (qualifying periods) and the initial factor. Value points per year of insurance are the result of the division of gross or net earnings per calendar year per gross or net average annual wage. A value point has a value of 1 if the insuree had annual salary equal to the average salary of all employed persons in the same calendar year. Initial factor is used for the calculation of pension benefits in the case of early retirement or retirement after the old-age retirement age. Hence, it can either reduce the pension per each calendar month of early retirement, or increase pension benefit for each calendar month of postponed retirement. From 2014 maximum reduction for 5 years of early retirement ranges from 6% to 20.4%, depending on the years of insurance, while maximum increase for later retirement is 9%. **Pension factor** depends on the pension type and determines to what extent personal points will be taken into account. It is never higher than 1. For old age and early retirement pension, it is 1. For survivor's pension it depends on the number of family members; for disability pensions it depends on the type of disability (total disability or partial disability), risk occurrences (accident at work or occupational disease), and the fact weather disabled person is working or is unemployed. **Actual pension value** is the value of one personal point; hence, the amount is used for valorisation and indexation of pensions. The **basic pension factor** has been introduced in 2014 and reflects the average ratio of contributions paid to the PAYGO scheme (the 1st pillar) in relation to the total contribution rate for the two tier mandatory system. Persons participating only within the first pillar have also right to pension supplement. The amount of supplement depends on the year of retirement (from 2010 onwards it is 27%). Some groups of pensioners are not entitled to that supplement such as: two-tier pensioners as well as pensioners receiving minimum pension, maximum pension and "privileged" pension. More on benefit formulas see: Potočnjak, 2000b; Pension Insurance Act of 2014, Art. 79-93, Act on Pension Supplement, NN 79/2007, 114/2011.

[18] At the end of 2014, there were 205,321 pensioners receiving minimum pension and only 1,614 persons receiving regular maximum pension (Croatian Pension Insurance Institute, *Statistical Information*, 4/2014: 33). The **minimum pension** is not set as absolute amount. It depends on the number of qualifying years multiplied by the minimum actual pension value, currently amounting to HRK 59.05 HRK. When compared to regular actual pension value set at 60.92 HRK, it is obvious that it is set very high, at 97% of the actual pension value, resulting in significant

(the second and third pillar) depend on the total amount of contributions paid, investment returns, administration costs, life-expectancy at the time of retirement (unisex tables since 2014) and type of annuity (Vukorepa, 2012: 238-239).

The entitlement to the second pillar pension is conditioned upon entitlement to the first pillar pension, while pensions within the third pillar can be paid out already at the age of 50, which is much lower than the statutory retirement old-age (currently 65 for men and there is equalisation transitional period for women). More on retirement age changes will be explained in the next section. Pensioners within the framework of mandatory system receive their pensions only on a lifelong basis, while from the voluntary system they can receive them either on a lifelong or on a temporary basis (partial one-time withdrawal of max. 30 percent is also permitted). The mandatory schemes cover the traditional risks of old-age, death, disability, physical injury, including also higher rights if the risks of death and disability were caused by accidents at work and occupational diseases (pension is calculated for minimum 40 years of insurance period, hence in most cases regardless of the actual years of insurance). Benefits in terms of pensions under the mandatory schemes comprise old-age pension (including early retirement pension), survivors' pension and disability pension.

Further on, it should be mentioned that within the mandatory part of the pension system there is no separate scheme for special categories or occupations, but there have been special laws under the general system which afford more favourable pension conditions to 14 categories of the so-called »privileged pensioners« (Bađun, 2009).[19] Some changes have been adopted in the meantime, such as pension reduction, different indexation rule, abolition of privileged retirement conditions for some high state officials (e.g. for members of the Parliament, Government, judges of the Constitutional Court and General Audit were abolished with effect from 3 February 2012, thus only for new pensioners).[20] Nevertheless they represent a long-term and growing financial burden to the underfunded first-pillar: at the end of 2011 they

degree of redistribution (Pension Insurance Act of 2014, Art. Art. 90). However, this degree of redistribution is partially reduced by the "pension supplement" (amounting to 27% for single tier pensioners that retired in 2010 and onwards). Hence, all those persons whose average wages or contribution bases were below 76.325% compared to the average national wage will be entitled to minimum pension. Regular **maximum pension** is capped at 380 percent of persons earnings compared to economy wide average earnings, while the contributions can be paid up to the 600 percent of the average earnings. However, for some privileged pension groups it can be higher (e.g. war veterans, but also used to be higher for MP's, Constitutional Court judges etc.), see: Maximum Pension Act, NN, 162/1998, 82/2001.

[19] These 14 different groups of privileged pensioner have been the following: Members of the Croatian Home Guard Army (1941-1945); National Liberation War participants (from 1943-1945); Employees performing certain activities within the Internal Affairs and Justice; Former political prisoners; Members of the former Yugoslav National Army; Full members of the Croatian Academy of Science and Arts; Members of the Parliamentary Executive Council, Federal Executive Council and administratively retired public servants in the former SFRY; Members of the Croatian Parliament, members of the Government, Constitutional Court judges and the Auditor General; Miners from the Istrian coal mines »Tupljak«, d.d. Labin; Workers professionally exposed to asbestos; Members of the Croatian Army, Police Officers, Authorised Officials; Croatian homeland war veterans (1990-1996); Members of the Croatian Defence Council (CDC).

[20] For members of the Parliament, Government, judges of the Constitutional Court and General Audit privileged retirement conditions were abolished with effect from 3 February 2012, thus only for new pensioners (Amendments to the Act on Rights and Duties of Croatian Parliament Representatives, NN 12/2012). However, Constitutional Court's decision (U-I-4113/2008, 12 August 2014) restored the right to retire according to the regulations in force at the time they were holding the office, regardless of the time of applying for the right to parliamentary pension. Hence, pension expenditures will not be decreased as originally expected.

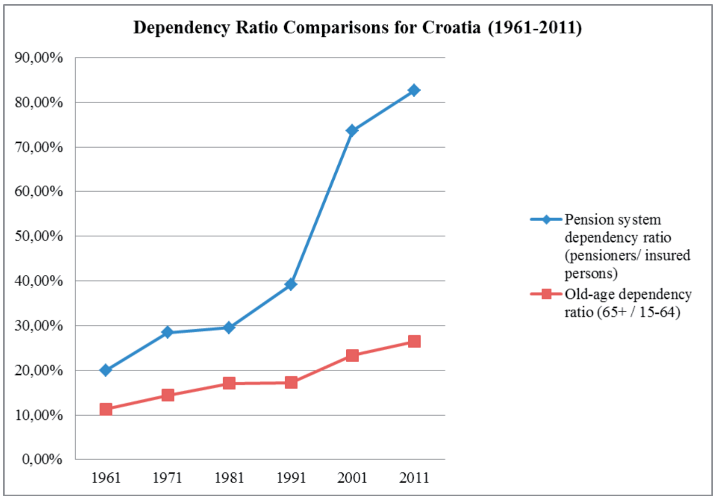
amounted to 14.18 percent and in 2014 to 14.88 percent of all the beneficiaries (Croatian Pension Insurance Institute, Statistical information, 4/2011: 11, 30, 4/2014: 12, 34). If we add to those 14 privileged groups other pensioners that also receive »implicit pension subsidy« (in the form of minimum pension, survivor's pension, disability pension and early retirement pension), then we could conclude that much more than a half of our pensioners is receiving pensions higher than actuarially neutral (similarly Vukorepa, 2012: 207-209). This shows that the Croatian pension system has a very strong redistributive character, which raises doubts about its fairness and sustainability.

REFORM MEASURES

The Croatian pension system has been torn apart between sustainability and adequacy issues, which are both a big challenge in aging societies. Since the 1990s, Croatia has had negative natural increase rates (Akrap and Živić, 2001:632). Unfortunately, it continued in this century: in 2004 it was -2.1, in 2007 it was -2.4, in 2010 it was -2.0, in 2013 it was -2.5 (Croatian Bureau of Statistics, 2014). Old-age dependency ratio projections are comparable to the EU average: 39.11% for 2030 and 52.16% for 2060 compared to EU -28 of 39.01% and 50.16% respectively, however with large differences between the countries, e.g. Belgium, Denmark, Ireland have more favourable projections (Eurostat, 2015c). Moreover, by 2060 the effective economic old age dependency ratio is projected to be above 80% for Croatia, also for Bulgaria, Greece, Italy, Poland, Portugal, Romania and Slovakia (European Commission, 2015a:65, 390).

The terribly unfavourable Croatian pension system's dependency ratio has been said to be caused by the population structure. However, the next graph shows that **only part of the blame can be put on demographic aging**, and that according to it Croatia could still have much lower system dependency ratios, i.e. a much more favourable ratio of contributors to pensioners.

Figure 1
Dependency Ratio Comparisons for Croatia (1961-2011)



Source: Vukorepa, 2012: 113, based on data from Croatian Pension Insurance Institute and Croatian Bureau of Statistic (census data).

The author believes that the **biggest part of the problem lies in the poor management** of the pension policy that comes back to us now as a boomerang. It began already in the 1980s (with the introduction of wage indexation of pensions and low standard retirement ages: 60 for men and 55 for women, with 5 years of early retirement option). It also continued after Croatia's independence, when attempts were made to solve part of the social and economic problems (specifically unemployment) through retirement. Constant changes of legislation, especially in the form of lowering early retirement discouragements, introducing many benefit additions and exceptions from basic rules, made retirement attractive to many (Vukorepa, 2012: 113-114). Since 1998, there were numerous changes to the pension system (especially regarding the first pillar, from 1998 to 2015 altogether 21), hence jeopardizing the stability of the system and trust in the national governments. Namely, this PAYGO pillar is most sensitive to political and social pressure due to its maturity and unfavourable system dependency ratio. Pensioners plus those close to the retirement age makes the biggest group of voters. Therefore, in the atmosphere of dissatisfied interest groups (such as trade unions and pensioners' associations) and a lack of constructive social dialogue, during pre-election or post-election times governments reneged on earlier policy directions and commitments, usually making costly and inefficient measures thereby increasing future deficits. Policy choices were »frequently subordinated to vote and office –seeking objectives« (Guardiancich, 2013: 71-80, 242).

Almost all Croatian governments enacted changes, making it more attractive for older workers to enter into retirement rather than stay employed or search for a job (which is especially sensitive in the context of economic crisis and increased unemployment). From 2009, unemployment started increasing in Croatia from 9.2% reaching 17.3% in 2014, when EU28 average was only 10.2% (Eurostat, 2015d). The labour market suffered from the economic crisis in addition to constant legislation changes, so it was not prepared to keep older workers. The problem has been aggravated by rigid labour law legislation specifying certain age as a reason for employment termination (especially in the public sector, see the next section). The statistical data reflect these problems. There is a low employment rate: in 2014, only 59.2% compared to EU28 average of 69.2% (Eurostat, 2015a). More specifically, for older workers aged 55-64 employment rates have been much lower: in 2002 it was 24.8%, followed by an increasing trend only until 2009, when it reached 39.4%. During the crisis, the trend reversed. The employment rate of older workers dropped to only 36.3% in 2014, compared to EU28 average of 51.8%, while being much higher in some EU countries such as Denmark, Germany, Estonia, Lithuania, Netherlands, Sweden, Iceland, Norway (Eurostat, 2015b).

In addition, other features of the Croatian economy have not been commendable. There is a general government deficit (in 2012 was -5.6% of GDP, in 2013 was -5.2% and in 2014 was -5.7% of GDP) and high gross public debt (in 2011 was 63.7% of GDP, in 2012 was 69.2%, in 2013 was 80.6% and in 2014 was 85%), (Croatian Bureau of Statistics, 2015). Forecasts until 2016 are not bright. Croatia is under Excessive Deficit Procedure, and in March 2014, the Commission concluded also that Croatia was experiencing excessive macroeconomic imbalances in need of specific monitoring and strong policy action; the Excessive Imbalance Procedure was not activated yet (European Commission, 2015b, 2015c, 2015d).

In the context of these aging and economic problems, in the next three sections I will highlight main reform trends in Croatia, with some critical review observations. The focus will be on the 2013-2015 reform regarding mandatory parts, however with some inevitable reminders on past reform solutions. I will start with sustainability reform measures and countermeasures, because if that is impaired, then I am of the opinion that in the end the benefit adequacy is endangered as well.

Measures aimed at improving pension system's sustainability

With a view of improving pension system's sustainability, several measures have been introduced: 1) pension cuts for privileged pension groups and their different indexation, 2) changes in disability pensions, 3) pension increments for working longer, 4) retirement age increases.

For most of the »**privileged**« **pension groups,** pensions have been reduced by 10% twice (from July 2010 and from January 2014).[21] Further, new Pension Insurance Act (in force since 1 January 2014) prescribes different indexation rules than for the "earned" first pillar pensions. These pensions in their privileged part will be adjusted by the Government decision, but only if the real growth of the GDP in each of the three previous consecutive quarters is at least 2.0% compared to the same quarter of the previous calendar year and if state budget deficit is under 3%.[22]

With the aim of reducing the costs for **disability pensions**, changes were introduced through several amendments. During 2013 *ad hoc* control examination system was introduced[23] that reduced the total number of disability pensioners (National Social Report, 2014: 26). In addition, recertification of disability pensions is prescribed to be automatically done every 3 years. In 2014 the new unified system for obtaining disability pensions was established as to reduce fraud[24] and vocational rehabilitation system was improved. **Disability definition, linked to the remaining work capacity, has been changed** so that if a person is not able to work full time after »vocational rehabilitation« or at least 70% on adjusted job, he/she will qualify for total disability pension.[25] This in my opinion **could increase the number of total disability pensions** (which are higher in the amount then partial disability pensions and such pensioners are put out of the labour marker). The validity of this conclusion is also suggested by the increase in the number of new entrants: in 2013 there were 2,706 new disability pensioners and in 2014 their number increased to 3,475 (Croatian Pension Insurance Institute, 2013, 2014: 37). Apart from total disability pension and partial disability pension (that both existed before under different names)[26], the third form of disability pension was introduced, i.e. **temporary disability pension.**

[21] The Act on the Reduction of Certain Pensions Acquired in Accordance with Special Regulations on Pension Insurance, NN 71/10, 130/11, 157/13.

[22] Pension Insurance Act of 2013, NN 157/2013, 151/2014, 33/2015, Art. 94, para. 2.

[23] Government Regulation Amending Pension Insurance Act of 1998, NN 122/13.

[24] The Act on the Single Expertise Body of 2014 (NN 85/2014) was adopted with the intention to help limit the inflow of disability pensioners and reduce fraud by unifying disability assessments.

[25] Pension Insurance Act of 2013, NN 157/2013, 151/2014, 33/2015, Arts. 39-60, 125-127.

[26] Total disability pension (before: »disability pension due to general incapacity to work«) is allowed when there is permanent and full loss of working capacity. Partial disability pension (before: »disability pension due to professional incapacity to work«) is when there is »partial loss of working capacity«; this is according to new

Entitled are persons with reduced working capacity who even after having completed the professional rehabilitation remained unemployed for at least 5 years, provided that their unemployment lasted until the age of 58.

Very problematic is the provision prescribing the **conversion of total disability pensions** (in the same amount without recalculation) **to old-age pensions** upon reaching the statutory old-age (applicable from 1 January 2015).[27] This measure encompasses only pensioners from the regular system, and not privileged categories. Nevertheless, it creates a totally wrong statistical picture, since old age pensions are calculated on the actual years of service (contributions paid) while disability pensions are calculated on the years of service plus »additional period«, that is a fictive period (not covered with contributions) accredited with the purpose of increasing the disability benefits.[28] Thus those pensioners are receiving implicit pension subsidy. During 2015 there were 86,558 of those conversions (Croatian Pension Insurance Institute, Statistical Information, 1/2015:11).

Regarding retirement age, back in 1922 in line with Bismarckian roots it was set very high for that time: at 70 for both men and women (later in 1933 reduced for women to 65). Later on, from 1942 to 1980-ties there was a constant tendency to lower the retirement age (Vukorepa, 2012: 126). The trend reversed when Croatia gained independence and was faced with serious sustainability problems. Since 1998, **retirement age increases** have been enacted on three occasions, but with very long transitional periods. First, the Pension insurance Act of 1998 increased statutory old-age and early retirement age by 5 years during 10 years transitional period (6 months increase per each calendar year). Hence, for women from 50 to 55 for early retirement and from 55 to 60 for old age pension, while for men from 55 to 60 for early retirement and from 60 to 65 for old age pension.[29] Furthermore, from 2011 to 2029 there is another transitional period in force only for women. The statutory retirement age, the early retirement age and the qualifying period are being gradually increased and are set to be fully harmonised with those for men by 2030 (i.e. 65 for old age pension plus 15 qualifying years, 60 for early retirement plus 35 qualifying years).[30] The 2013 Pension Insurance Act enacted the third increase in pensionable age, for both men and women. It prescribes gradual transition period: 3 months increase per calendar year from 2031 to 2037. Hence, retirement age will be increased from 65 to 67 and the early retirement age from 60 to 62, with the full effect only as of 2038.[31] In view of the population aging projections, increases in life-expectancy and erosion of

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definition when a person has reduced working capacity, which due to health conditions, age, education and abilities is not likely to be improved by »professional rehabilitation« (type of vocational retraining) as for the person to be able to work full-time in a different job; however the person should be assessed to be able to work for at least 70% of full time working hours at adapted job that requires the same or similar level of education and corresponds to the previous job.

[27] Government Regulation amending Pension Insurance Act of 2013, NN 151/2014, Art. 15 amending Art. 58 (later enacted, NN 33/2015).

[28] Pension Insurance Act of 2013, NN 157/2013, 151/2014, 33/2015, Arts. 32 and 86. para.3.

[29] Pension Insurance Act of 1998, NN 102/1998, Arts. 30, 31, 179, 182.

[30] 2010 Amendment to the Pension Insurance Act of 1998, NN 121/2010, Arts. 8, 9, 26 and 27 relating to Arts. 30 and 31 of the Pension Insurance Act.

[31] Pension Insurance Act of 2013, NN 157/2013, 151/2014, 33/2015, Arts. 33 and 34.

pension system's support ratio (Vukorepa, 2012: 95-127), I doubt that such a slow and small increase is sustainability effective. However, one should be aware of the fact that changes in pensionable age are very contentious and thus politically sensitive. Therefore, it is unfortunate that so far Croatian Government missed the opportunity to seriously consider putting this part of the pension system on »auto-pilot« (Bosworth and Weaver, 2011, OECD, 2012:65) by linking the pensionable age to the evolutions in life-expectancy. In this way political opposition to the introduction of changes would be less relevant, while at the same time governments would have the opportunity to suspend the application of the automatic mechanism if indispensable and affordable.

Pension increment for working longer has been introduced in 2011 for persons who continue working after the statutory retirement age; it amounts to 0.15% per each month of later retirement, but is awarded for maximum 5 years, hence the total increment is limited to 9%. This measure is supposed to stimulate later retirement, but its effectiveness and actuarial fairness is doubtful, especially when compared to early retirement decrements, as explained below.

Countermeasures to sustainability measures

I am of the opinion that **potential positive effect** on pension system's sustainability **of** »**retirement increase**« **and** »**pension increment for working longer**« is **jeopardized by several other reform measures** (some introduced with a view of improving pension adequacy and social sensitivity), **as well as by employment and tax legislation**. These countermeasures are: 1) decrease in early retirement decrements, 2) two new types of early retirements without decrement, 3) work upon retirement with full pension in payment, 4) employment legislation linking employment termination to 65, and 5) continued unequal tax treatment of pensions and other employment incomes. I argue that all these countermeasures will most likely result in an increase of the number of pensioners above the level that could be normally expected taking into account demographic trends only.[32]

Reduction of benefits for early retirement exists from 1999 when Pension Insurance Act of 1998 came into force. Until the end of 2007, the early retirement decrement was 0.34% per month (hence 4.08% per year of early retirement, 20.40% for maximum 5 years early retirement). This amount was considered to be close to actuarially neutral correction of the pension benefit due to longer period of payments (World Bank, 2011: 25). Nevertheless, during election year 2007 it has been decreased to only 0.15% per month (thus to 1.8% per year; 9% for 5 years).[33] Such decreased level was applicable from 2008 to 2010. Since 2011 the maximum reduction for early retirement depends not only on the months of early retirement, but also on the years of insurance (mainly years of contributions),[34] which discriminates contributors who have served fewer years. From 2011 to 2013 it was from min. 9% to max. 20.4% for 5 years early retirement. The new Pension insu-

[32] This author's opinion is also corroborated partially by the Government Guidelines for Economic and Fiscal Policy 2015 -2017. For 2015, pension expenditures are projected in the amount of HRK 36.5 billion, which is 85 million more than in 2014, as a result of an increase in the number of pension beneficiaries (Croatian Government, 2014a: 15).

[33] 2007 Amendments to Pension Insurance Act of 1998, NN 79/07, Art. 2 (changing Art. 78).

[34] 2010 Amendment to the Pension Insurance Act of 1998, NN 121/2010, Art. 13 (changing Art. 78).

rance Act of 2013 further reduced the early retirement decrement for persons with long years of contributions so that since January 2014 it ranges from 6% (for persons with 40 years of insurance) to 20.4% (for persons with 35 or less years of insurance). All these changes have influenced significantly the rise in the take-up of early pensions (visible below in Figure 2). Such differentiation of early retirement decrements based on years of contributions is in my opinion inappropriate for two reasons. First, the contingence within pension systems is neither work nor years of contribution (they are taken into account when calculating benefit). Contingence is old-age and there-to presumed lower work capacity. Second, the basic purpose of early retirement decrement is actuarial reduction of benefits due to longer periods of benefit collection than in the case of regular old-age retirement (Munnell and Sass, 2012). Therefore, in my opinion years of contributions should not be relevant, but instead months and years of early retirement in relation to life expectancy as to avoid additional costs to the PAYGO first pillar scheme.

In relation to these arguments, I also find problematic **two new types of early retirement pensions without decrement** that the legislator introduced since 2014.[35] The first is »**early retirement pension due to long-time insurance**« for persons after reaching 60 years of age and 41 qualifying years. It was later during the year **renamed into** »**old-age pension for long-insured**«.[36] The amount of benefit for this type of pension is determined without application of early retirement decrement, although these groups will use pension rights longer than regular old age pensioners will. Moreover, they are entitled to rewarding if working longer than 60 (0.15% for each month, up to max. 9%). The second is »**early retirement pension due to bankruptcy**«, that was introduced for persons fulfilling early retirement conditions and whose insurance status was terminated due to employer's bankruptcy, provided they have been unemployed for at least 2 years continuously prior to retirement. Many persons have used the first option to retire early (4.580 persons during 2014), while considerably less have used the second form of this exceptional early retirement (only 11). Regarding the number of all types of new early retirement beneficiaries, again the rising trend is evident: 12,015 persons in 2009, 21,140 in 2010, 13,384 in 2011, 13,553 in 2012, 15,684 in 2013, 18,023 in 2014 (Croatian Pension Insurance Institute, see also Figure 2 below). I argue this is due to these legislative changes.

Work upon retirement has been partially allowed **s**ince 2014, as another adequacy measure permitting retirees to increase their income. Namely, the payment of old-age pension is not any more suspended if beneficiaries continue to work part-time (maximum 20 hours per week) and only as employees (this measure does not cover self-employment).[37] Old age pension to such persons is paid in full, without any reduction, while partial disability pension is payable during employment in a reduced amount.[38] I cannot but wonder at the rationale behind such a solution. I think it raises at least two concerns. The first is the issue of discrimination of pensioners continuing

[35] Pension Insurance Act of 2013, NN 157/2013, Arts. 35 and 36.

[36] 2014 Government Regulation Amending Pension Insurance Act of 2013, NN 151/2014, Art. 6 changing Art. 35 (later this Government Regulation was enacted, NN 33/2015).

[37] Pension Insurance Act, NN 157/2013, 151/2014, 33/2015, Art. 99.

[38] *Ibidem*, Art. 87 (In the amount of 67% if partial disability is caused by accident at work or occupational decease, and in the amount of 50% due to other accidents or illnesses).

to work based on disability. The second is that the effectiveness of retirement age increases, because this measure together with some other (e.g. early retirement for long-insured without decrement) discourages people to stay in full employment. It seems that the Government is repeating the mistakes from the 1990s when unemployment problem was solved through pension system, thus passing on the problem to younger and /or unborn generations.

Employment legislation still linking employment termination to the age of 65 is also preventing older people from actually working longer. Namely, the new Labour Act (NN 93/2014, Art 112) still prescribes, as did the old legislation from 1994 and 2009, that the employment contract shall be terminated when the worker reaches the age of 65 and 15 years of retirement qualifying years, unless otherwise agreed between the employer and the worker. Hence, the worker cannot stay employed unless the employer agrees. Furthermore, there is legislation discouraging employers from doing so. Mandatory Health Insurance Act (NN 80/2013, 137/2013, Art. 50) prohibits coverage of salary compensation by health insurance when workers aged 65 or older are on sick leave; the cost should be entirely covered solely by the employer. Specifically strict legislation regarding termination of employment is present in the public sector where *ex lege* termination of employment is connected to the age 65, allowing only in very rare and exceptional circumstances for prolongations (e.g. civil servants, public health service sector, primary and secondary schools, universities and scientific institutes etc.).[39] Thus, legislative changes are necessary also in employment legislation if consistent policy towards retirement age increases is to be conducted.

Further problem in my opinion lies in the **continued unequal tax treatment of wages and pensions**. It is a measure directed towards pension adequacy, however I think with adverse effect **discouraging people from working longer**. Namely, there is a higher non-taxable portion of income (so called »basic personal allowance«) for pensioners than for wage earners and the self-employed. This difference was introduced in 1995 and was very low in the beginning (only HRK 50.00),[40] but through the years was increased and now amounts to HRK 1,200.00.[41] Recent tax changes (with the effect from January 2015) have increased the levels of non-taxable portion of the income by HRK 400.00, equally for pensioners and other income earners.[42] Hence, pensioners are now entitled to a monthly personal deduction in the amount of the total pension, but at the maximum of HRK 3,800.00, while wage earners and the self-employed enjoy basic personal allowance amounting to 2,600.00 HRK. This latest increase of the basic personal allowance will, according to the Government estima-

[39] **Civil Servants Act**, NN 92/2005, 140/2005, 142/2006, 77/2007, 107/2007, 27/2008, 34/2011, 49/2011, 150/2011, 34/2012, 38/2013, 37/2013, 1/2015, Art. 137; **Health Protection Act**, NN 150/2008, 155/2009, 71/2010, 139/2010, 22/2011, 84/2011, 154/2011, 12/2012, 35/2012, 70/2012, 144/2012, 82/2013, 159/2013, 22/2014, 154/2014, Art. 159; **Act on Education in Primary and Secondary Schools**, NN 87/2008, 86/2009, 92/2010, 105/2010, 90/2011, 5/2012, 16/2012, 86/2012, 94/2013, 152/2014, Art. 112; **Act on Science and Higher Education**, NN 123/2003, 198/2003, 105/2004, 174/2004, 2/2007, 46/2007, 45/2009, 45/2009, 63/2011, 94/2013, 139/2013, 101/2014, 60/2015, Art. 42 para. 8, and Art. 102, para 7 – 8.

[40] Amendments to the Income Tax Act of 1994, NN 95/94. Art. 31 changing Art. 34.

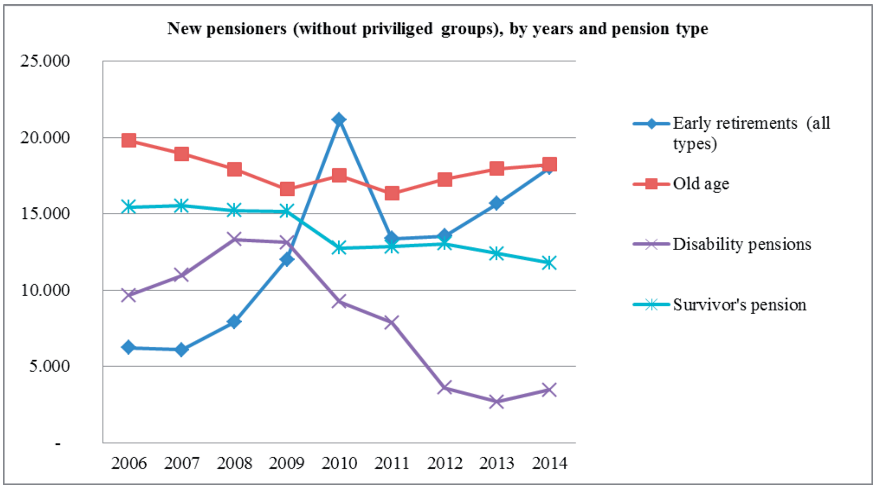
[41] Income Tax Act of 2000, NN 127/00, 150/02, 163/03, 30/04, Art. 29; Income Tax Act of 2004, NN 177/04, 73/08, 80/10, 114/11, 22/12, 144/12, 120/13,125/13, 148/13, 83/2014, 143/2014, Art. 36.

[42] Amendments to the Income Tax Act, NN 143/14, Art. 13.

tes, exempt around 80,000 pensioners from income tax payment. In addition, around 145,000 retirees will profit from an increase in the net pension. However, the State budget revenues from personal income tax are expected to fall on an annual basis by about 136 million HRK (Croatian Parliament, 2014: 4). Moreover, the amount of non-taxable parts of the income should be considered in the context of gross minimum wage (for 2015 set at 3,029.55 HRK, NN 151/2014) that has been set below the maximum personal allowance for pensions. Thus in this context, the preferential tax treatment of income from pensions represents another measure deterring people from working longer.

All these elaborated countermeasures reflect a confusing and inconsistent pension policy that discourages work and stimulates retirement, which all responsible governments would want to avoid. The statistical data unfortunately prove my argument that, due to unemployment and various new legislative changes, there has been a rise in the number of new pension beneficiaries. Exits from the unemployment registry due to various types of retirement have increased significantly during 2014 compared to previous years: in 2014 exit registry counted 7,019 persons aged over 60 and 2,914 persons aged 55-59; in 2013 it counted 5,100 persons aged over 60 and 2,336 aged 55-59 and in 2012 it counted 4,448 persons aged over 60 and 2,109 aged 55-59 (Croatian Employment Service). Hence, as visible from Figure 2, legislation is not discouraging people from retirement; on the contrary, it may be rightfully considered that it contributes to the rising number of new beneficiaries.

Figure 2.
New pensioners (without privileged groups), by years and pension type



Source: Author based on the periodical “Statistical Information” from the Croatian Pension Insurance Institute.

Measures aimed at pension adequacy

Croatian pensioners are generally considered to be poor, however, it should be pointed out that pension amounts differ, depending whether the pension was acquired before 1998 or after 1999, whether the person falls under the regular scheme or among one of the 14 »privileged groups«. The data on aggregate replacement ratio[43] also suggest a significant drop in living standards compared to pre-retirement earnings: in 2013 it was 0.37 compared to EU-28 average of 0.55 (Eurostat, 2015e). This can be explained by several factors. First, until 2002 private pension systems did not exist; so most of the current pensioners do not have that kind of pension income. Second, the fact is that PAYGO system's support ratio is constantly dropping and is extremely low, around 1.14, as shown above. Third, many pensioners have short periods of service (qualifying years). In 2004, only 13.57% of pensioners received pensions on the basis of 40 or more qualifying years, while 41.96% have less than 30 years of service (Croatian Pension Insurance Institute, Statistical Information, 4/2014:28). Hence, there is a constant challenge of how to provide adequate level of pensions within the economic and social context of Croatian society (e.g. Nestić *et al*, 2012; Nestić and Tomić, 2012).

In addition to the measures mentioned in the previous section (i.e. reduction of early pension decrements, increases of the non-taxable portion of the income), several other measures have been introduced with the aim of improving the first pillar and/or second pillar pension's adequacy. Those measures are: 1) possibility to opt-out from two-tier system, 2) change in the pension indexation formula, 3) change in the "basic pension formula", 4) implementation of life-style funds within the second pillar, 5) reduction of management fees.

Possibility to opt-out from two-tier system for optional participants (i.e. those who were between 40 and 50 years of age in 2002) was enacted in 2011 with a view to improve their pension level, which was lower than pensions from single-pillar system.[44] For those who are still employed, a possibility to abandon the second pillar at the time of retirement is still allowed.[45] It is likely that in practice the second pillar optional contributors will be using this right if they assess that the single-tier pension (only from the PAYGO scheme) would be more favourable than the pension from the two-tier system.

Before 1998, pensions were only wage indexed. From 1999 to 2013, **pension indexation** was done twice per year according to the so-called Swiss formula (50% wage: 50% prices). During 2010 and 2011, pension indexation was suspended due to economic reasons with a view of cutting pension expenditures (Vukorepa, 2012:

[43] In Eurostat methodology, it is the ratio of the median individual gross pensions of 65-74 age category relative to median individual gross earnings of 50-59 age category, excluding other social benefits.

[44] This was due to several reasons. First, they were not entitled to pension supplement reserved only for single-tier pensioners, hence those who were older than 50 in 2002. The amount of pension supplement depends on the year of retirement (since 2010 it is 27%). The second reason is that the majority of such pensioners were women who retired early from mostly low paid jobs and who were paying contributions for funded second pillar scheme for a very short time (around only 7 years). Their average retirement age was 55-57 years. As a result, the average amount of pension acquired from the second pillar was extremely low: HRK 107.17 (in addition to the average amount of pension from the first pillar of HRK 1,965.83). Records show that 97% of beneficiaries of two tier system opted for pension recalculation, as if they had been insured only within the single tier system (1,238 out of 1,279 of beneficiaries). See: Vukorepa, 2012: 140.

[45] Act on Mandatory Pension Funds, NN 19/2014, Art. 104.

136). Recently there were changes in the pension indexation formula that affect equally the first and second pillar pensions. Namely, Pension Insurance Act of 2013 continues to apply same parameters for benefit indexation (i.e. increases in the consumer prices and average gross wages). However, it introduced a **new complicated rotating formula**: 1) for 1 July indexation there is a fixed 50:50 ratio, and 2) for 1 January indexation there are variable ratios, depending on trends in prices and wages (70:30, 50:50 and 30:70), whereby always a more favourable ratio for pensioners. Pensions cannot be indexed downwards. Regarding indexation of »privileged« pensions, since 2015 they have been indexed differently in their privileged part (by Government decision, but only if the real growth of the GDP in each of the 3 previous consecutive quarters was at least 2.0% compared to the same quarter of the previous calendar year and if state budget deficit was under 3%).[46] Thus, the new indexation formula will positively impact pension adequacy, but it is reasonable to expect that it might have a long-term negative impact on pension system's deficit.

Since 2014 there has been **a change in the** »**basic pension formula**« (i.e. formula for pensions from the first pillar for persons acquiring benefits under the two-tier system). The solidarity element (Potočnjak, 2000b: 11-13) was removed from the formula. The new formula is now based on the same elements as the general formula multiplied by the so called »basic pension factor«. It represents the average ratio of contributions paid to the first pillar scheme in relation to the total contribution for mandatory pension system (now it amounts to 0.75, because the first pillar contribution rate for two-tier participants is 15% and the total mandatory pension contribution's rate is 20%, i.e. 5% is forwarded to individual savings within mandatory second DC pillar).

Regarding the **second pillar pensions**, the new Mandatory Pension Funds Act of 2014 introduced **life-style funds with life-cycle approach** with a view of reduction of investment risk while approaching the retirement age.[47] The model has been implemented as of August 2014. Each mandatory pension fund (currently there are 4) has to have 3 sub-funds of different investment risk exposure (A - aggressive, B - balanced, C - conservative). Participation in the sub-funds automatically changes with age. Sub-fund A is for fund members that have 10 or more years until the statutory old age, B is for those who have 5 or more years, and C is for those who have less than 5 years until the statutory old-age. However, fund members are allowed to make a more conservative choice. If no choice is made, the B sub-fund is a default fund until 5 years before the statutory old age. The predominant majority of second pillar participants stayed within B funds (around 97% at the end of 2014, data from Croatian Financial Services Supervisory Agency). Type B funds are the »successor« of previous single-funds run by four different pension fund companies. Kovačević and Latković (2015) have shown that with the A-B-C savings scheme, the fund members are better off than in the old single fund model, even in the event of a market shock at the time of retirement (so called timing-risk). However, possible further improvements should be considered, especially regarding investment options in sub-fund C. It has been demonstrated that the expected risk for fund C as compared to that of fund B is not proportionally smaller, given the

[46] Pension Insurance Act, NN 157/2013, 151/2014, 33/2015, Arts. 88 and 94.

[47] Act on Mandatory Pension Funds, NN 19/2014, Art. 78-96, 124-136.

reduction in the exposure to equity, which can be explained primarily by the lack of investment diversification (Kovačević and Latković, 2015: 52-54). In relation to these considerations, I find it unfortunate that law proponents did not consider and compare all the other options for lifecycle portfolio management proposed by scholars before drafting law, e.g. target-date funds (Potočnjak and Vukorepa, 2012).

It is commendable that there has been a **reduction in the management fee** for second pillar pension funds. Management fee is one of several fees charged (together with fee on contributions, custodian fee, exit fee and remittance fee). Until the end of 2013 the statutory maximum management fee was 1.2%. However, the Croatian Financial Services Supervisory Agency (HANFA) decided on its actual level on a yearly basis. Over the years, it was gradually decreased: from 2003 to 2006 it was 1.2%, in 2007 it was 0.95%, in 2008 it was 0.85%, in 2009 it was 0.8%, in 2010 it was 0.75%, in 2011 it was 0.65%, in 2012 and 2013 it was set at 0.45% (Vukorepa, 2012: 332-347). Since 2014, the management fee has been statutorily set at 0.45% for years 2013, 2014 and 2015 and for each following year it will be reduced by 7%, until it finally reaches 0.3% (i.e. in 2020).[48] This reduction in the management fee is expected to have some positive effects on accumulation on savings within the second pillar.

CONCLUSION AND RECOMMENDATIONS

Unfortunately, in societies faced with economic turmoil, low employment rates and high unemployment, demographic problems (increases in life expectancy, falling birth rates and emigration) and consequently very high pension system's dependency ratios and under-funding, it is very difficult to meet sustainability and adequacy objectives without jeopardizing one by making measures to meet the other. Nevertheless, consistency in approach, long-term planning and fine-tuning is needed.

Arguments and statistical data shown in this paper reveal many inconsistencies and a lack of foresight in the legislator's approach. Recent changes have been designed to induce retirement instead of promoting work and later retirement, which is also evident in the rising number of old-age and early retirement beneficiaries. The potential positive effect of some measures has been endangered by their mildness, as well as by other countermeasures within and outside the pension system. Examples are numerous: 1) low and slow increases in retirement age simultaneous with the introduction of new pathways to early exits from the labour market, 2) actuarially unfair early retirement decrements and pension increments for working longer, 3) employment legislation still linking employment termination to the age of 65, 4) work upon retirement with full pension in payment, 5) continued unequal tax treatment of pensions and other incomes from employment, and 6) fragmentation of pension system through numerous privileged groups which squeezes out financial resources for standard pensions and gives rise to unequal treatment. Regarding tighter disability pension assessments and controls, the effect on expenditures will depend on how the measures will be implemented, especially taking into account the new definitions of partial and total disability. Most recent data from 2014 unfortunately show increases in the number of new disability pensioners, thus not providing much hope.

[48] Act on Mandatory Pension Funds, NN 19/2014, Art. 63.

Regarding benefit adequacy, during 2014 several adequacy measures were enacted, e.g. a new complex indexation pattern; new formula for basic pensions (first pillar pensions for two-tier participants); life-style funds with life-cycle approach and reduction of management fees in the second pillar. The new indexation pattern with rotating and variable ratios is more generous than the previous one. In the long-run it will probably cost more and will distribute a larger share of growth to pensioners. Adjustment of basic pension proportional to the share of first pillar contribution in total contributions will probably reduce a part of discrepancy between single-tier pensioners and two-tier pensioners, however increasing costs in the long term. Therefore, if new adequacy measures would be necessary in the future, then I am of the opinion that they should be focused only towards the »really poor«, hence means tested. For example, since Croatian minimum pension (benefit above the earned pension,) is currently not means tested, it could be divided into »earned« pension and »social pension part« that should be means tested.

New sustainability-oriented changes will be inevitable in the future. This is also suggested by the EU that recommends acceleration of the retirement increases, discouragement of early retirement by raising penalties for early exits, improvement of the adequacy and efficiency of pension spending by tightening the definition of arduous and hazardous professions (Council Recommendation of 8 July 2014, 2014/C 247/10, European Commission, 2015d). The government does not plan any new reform programmes for the period 2015-2017, only changes to the special system of insurance periods counted with extended duration, now in place mainly for hazardous and arduous occupations, but also for persons with disability such as blind persons, persons with multiple sclerosis etc. (Croatian Government, 2014b: 66). Since this preferential system has been in place for a very long time, the reform will be most probably much disputed among interest groups and social partners. Therefore, I doubt that during the election period 2015/2016 the Government will be willing to put forward any significant changes. Nevertheless, future governments will have to deal with these and many other problems within the pension system (some caused by recent 2013-2015 parametric reform). Here are some suggestions. Firstly, regarding future changes to increases in the retirement age and benefit adjustments, since these measures are always highly policy sensitive, putting a system on auto-pilot should be considered (in line with changes in life-expectancy and some other demographic and economic factors, but also with revision checks at regular intervals). Secondly, later retirement increment could be increased (also for more than 5 years) as to be actuarially fair and offering more incentive to work. Thirdly, early retirement decrement should be increased again as to be actuarially neutral. Shortening of the five year period for early retirement could be considered. The problem of hazardous occupations and especially arduous jobs (e.g. ballet dancers, opera singers, pilots and flying teachers) should be solved as to stimulate their longer stay at work in other jobs and not by putting them into early pension.

However, it is indispensable that all these measures are also complemented with other strategies outside pension policy as to enable older people to be fit and able to work longer, hence postpone their retirement. Therefore, several other reforms are necessary. Firstly, we need flexible labour markets that will be willing to employ older workers. Therefore, educational policy, tax legislation and employment legislation should be adapted. Labour legislation and health insurance provisions that currently hamper employment above 65 (especially in public administration, education and health sector) should be changed. Being a problem in itself, such legislation additionally raises concerns about increases in redistribution between the economically active elderly in the private sector and the "unproductive" elderly in the public sector. Secondly, increases in the retirement age might lead to other pathways for early exits from the labour market, such as unemployment, long-term sickness and disability benefits, that also influence public expenditures. Therefore, it seems to me that "activation logic" in sickness policies (Voissen and Gestel, 2015), aimed at full recovery (if possible) and facilitating access to employment thereby inhibiting exits from labour market becomes very important. Thirdly, we need strong and effective health oriented policies and thereto connected specific measures (e.g. more preventive than curative health system; promotion of healthy life styles, exercise therapy and nourishing habits; higher taxes on various types of "junk food" and lower taxes on healthy bio, non-GMO and locally grown food etc.). Hence, we need consistent policies and holistic approaches that will work towards sound pension systems and effective increases in the labour market participation of elderly.

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Sažetak

IZGUBLJENA IZMEĐU ODRŽIVOSTI I PRIMJERENOSTI: KRITIČKA ANALIZA PARAMETARSKE REFORME HRVATSKOG MIROVINSKOG SUSTAVA

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Danas, kada smo suočeni sa starenjem stanovništva, promjenama u strukturi obiteljskih zajednica, nepovoljnostima na tržištu rada, nestandardnim i novim oblicima rada, sivom ekonomijom, financijskom i gospodarskom krizom, mnogi su zabrinuti oko dva važna pitanja: financijske održivost mirovinskih sustava i primjerene razine mirovina (kratkoročno i dugoročno). Stoga su gotovo sve zemlje u svijetu poduzele neke reforme. Situacija je dodatno otežana u zemljama s visokim proračunskim deficitom i deficitima u mirovinskom sustavu, nepovoljnim stopama ovisnosti, dugotrajno negativnim stopama prirodnog prirasta, niskom zaposlenosti i visokom nezaposlenosti. Nažalost, Hrvatska je suočena sa svim tim problemima. Stoga je hrvatski mirovinski sustav prošao kroz brojne reforme: jednu sustavnu reformu (provedena od 1998. do 2002. što je rezultiralo uspostavom trodijelnog sustava) te nekoliko parametarskih reformi, od kojih se posljednja odnosila na sva tri stupa (od 2013. do 2015.). Cilj rada je provesti kritičku pravnu analizu ove posljednje parametarske reforme u svjetlu održivosti mirovinskog sustava i primjerenosti razine mirovina, uz neizbježna podsjećanja na neka prethodna reformska rješenja. Autor otkriva mnoge nedosljednosti zakonodavca te nedostatke i propuste u promišljanju reformskih mjera, koji dugoročno mogu ugroziti i financijsku održivost i primjerenost razine mirovina. Štoviše, učestale zakonske promjene posljednjih godina, kao i postojanje brojnih skupina povlaštenih umirovljenika narušavaju predvidivost, stabilnost, učinkovitost i pravičnost sustava te povjerenje u vladajuće elite. Nadalje, autor upozorava da se samo dio postojećih problema može riješiti promjenama u samom mirovinskom sustavu (kroz opreznije i sveobuhvatnije promišljene reforme). Te promjene moraju biti dopunjene drugim komplementarnim strategijama i mjerama (npr. u okviru zdravstvenog sustava, poreznog sustava, tržišta rada i radnog zakonodavstva).

Ključne riječi*:* Hrvatska, mirovine, mirovinska reforma, održivost, primjerenost.