

PENSION SYSTEMS AND PENSION REFORMS

CASE OF CROATIA

(WITH A REVIEW OF REFORMS IN 13 EMERGING EUROPEAN COUNTRIES)¹

Final Report

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ARHIVANALITIKA

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¹ Emerging European countries encompass the 13 countries covered by the PFS program: one mentor country (Croatia) and 12 target countries: Bosnia and Herzegovina, Serbia, Montenegro, Macedonia, Albania, Kosovo, Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

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Summary

This study covers 13 countries of interest under the USAID's program *Partners for Financial Stability (PFS)*. The 13 countries are at very different stages of pension system reform. The mentor country – Croatia is an early reformer which embarked on a multi-pillar pension system reform as early as 2002 when first mandatory pension funds became operational. Nowadays their total assets under management represent more than 10% of GDP.

The Croatian experience after nine years of reform is presented in the form of a case study (Chapter II), with a summary of the key policy and regulatory issues presented in Chapter III and questions for discussion listed in Appendix B. The author is confident that the details provided by the Croatian experience may be very useful for countries in the Southeast Europe (SEE) and Eurasian region, which are either contemplating comprehensive pension reforms or have taken the first reform steps.

In particular, Kosovo and Macedonia followed the Croatian approach by introducing second pillar mandatory pension funds. Five other countries covered by the PFS (Bosnia and Herzegovina, Serbia, Montenegro, Moldova and Ukraine) are at different stages of the introduction and functioning of voluntary pension funds. A comprehensive multi-pillar reform was contemplated in all of these countries, but only Ukraine moved to the point where most legislative work has been completed and operational preparations have taken the centre stage. Other countries lag behind. This does not imply that this review of experiences is not relevant for them. On the contrary, population aging is a pressing problem in Belarus and Georgia, too.

A broad review of key information about pension systems and pension reforms in the 13 countries is given in Chapter I. This chapter also discusses some general principles of the reform.

A review of the Croatian experience with pension system reform revealed six policy and regulatory issues that are of critical importance for the evolution of the pension system in the future:

- Political economy of intergenerational relations: how to find a balance between adequacy and sustainability
- Contribution rates: how to prevent their negative effect on competitiveness
- Transparent measurement of pension fund performance: how to reduce vulnerability to populism and ad hoc policy reactions
- Competition and security: how to promote competition in order to maximize long-run net returns at acceptable level of risk
- Cost control: how to internalize and supervise all costs relevant for operations of the pension system
- Development of capital markets: how to overcome the size problem

Six issues will have to be tackled in parallel in order to maximize benefits for future pensioners, while maintaining balance between solvency and social adequacy in the years to come.

Introduction

Provision for retirement is one of the most socially sensitive issues in modern societies. It has serious implications on economic growth and social cohesion.

Aging of population, high levels of public debt (as well as fiscal strain in general) and a slow-down of potential economic growth rate provided incentives for undertaking pension reforms in developed countries. Other factors have been at work in low-income societies: low capacity to tax, a large shadow economy and weak functions of governance. These factors gave birth to the pension reform in a country with young population, like Kosovo.

Twelve beneficiary countries of the PFS Program and one mentor country – Croatia, represent a set of 13 countries in Southeast Europe and Eurasian region with very different experiences regarding the design and reform of their pension systems. Most countries are lagging behind due to the lack of reform capacities or the absence of any pressing need to reform. Countries with young populations, such as Albania, Azerbaijan or Kosovo, do not feel immediate pressures to reform arising from a changing demography. Nevertheless, the incentive for reform may come from different directions, like in Kosovo. Besides weak governance in the first pillar pay-as-you-go (PAYG) system or weakness of functions of a social welfare state, other objectives – capital market development, changing economic incentives and promotion of individual financial responsibility and domestic savings, may also play a role in making choices about the pace and shape of the pension system reform.

The PFS region represents an interesting source of diverse experiences. There are advanced reformers that introduced individual retirement accounts based on a mandatory second pillar pension system (Croatia, Kosovo, Macedonia). There are slow reformers, which rely on a gradual approach, starting with the introduction of third-pillar voluntary pension funds (Bosnia and Herzegovina, Moldova, Montenegro, Serbia and Ukraine). Other countries saw no pressing need for reform. Therefore, reviewing experiences and deriving lessons may be very useful for policy makers across the region. The purpose of this study is to review the experience of the most advanced “mentor” reformer – Croatia, and present it in a way which will be useful for other countries in the group.

The diverse experiences of individual countries in the sample resemble differences among more advanced countries in CEE. Advanced reformers introduced mandatory pension funds (Hungary, Poland, Slovakia). They were followed by other countries, more sceptical about the introduction of the second pillar. Countries like the Czech Republic and Slovenia preferred a solution of voluntary pension funds. The experiences of more advanced CEE economies are particularly relevant as early reformers went through reform reversals in the midst of the economic and financial crisis. Hungary introduced the “free choice” principle: it allowed future pensioners to retreat back to the first pillar, i.e. PAYG system, effectively dismantling the second pillar. Poland substantially reduced contributions to the second pillar. Early enthusiasm about pension system reform vanished during the financial crisis as fiscal short-termism and doubts about expected returns and risks motivated policy makers to reconsider optimistic ideas that fuelled reform efforts a decade ago. Lessons from these experiences will be kept in mind while presenting conclusions of this study.

The study consists of three parts. The first part briefly reviews pension systems and pension reforms in the 13 countries. The core of the study is in the second part – the case study of Croatia. The concluding third part puts the Croatian experience within a wider context and derives relevant lessons for countries under the PFS program.

I Pension systems and pension reforms in 13 countries

Countries covered by this study are very heterogeneous in terms of their level of development and structural characteristics. A number of countries in this group have gross national income per capita at purchasing power parity averaging around \$ 10,000 (Table 1). However, there are significant “outliers”: Moldova, Georgia and Armenia on the downside and Croatia on the upside, with the Moldova to Croatia ratio being 1:5.5.

Differences in the level of development are reflected in differences in financial development. Montenegro and Croatia are the only countries in the group with a significant ratio of the annual value of stock market trade to GDP (which in international comparisons still appears to be miniscule). At the same time, credit markets, i.e. banking sectors are relatively well developed across the region. The ratio of credit to GDP varies across the countries in line with their economic development, with Albania and Ukraine being significant positive outliers due to the overheating of their credit markets during the pre-crisis lending boom.

Demographic and fiscal situations exhibit substantial differences, too. Croatia, Ukraine, Serbia and Georgia have by far the oldest populations. In this respect, these countries feel the most pressing need to bring their pension systems in line with the needs of the aging population. This problem is most pressing in Croatia. For a middle income country, Croatia also has a relatively high public debt and deficit. The deficit is largely generated within the pension system. Finally, the countries covered in this study suffer from weak governance and underdeveloped institutions of the market economy, with Croatia being an exception due to its forthcoming EU accession.

Table 1 Main economic indicators

	GNI per capita at PPP in current \$*	Share of population of 65+*	Annual stock market trade as % of GDP	Domestic credit as % of GDP	General gov't fiscal balance as % of GDP	Public debt as % of GDP
Croatia	18,730	17.2%	2.3%	82.2%	-4.3%	41.2%
Albania	8,740	9.7%	n.a.	67.5%	-5.2%	59.7%
Bosnia and Herzegovina	8,970	13.8%	0.9%	57.8%	-5.0%	33.3%
Kosovo	n.a.	n.a.	n.a.	17.6%	n.a.	n.a.
Macedonia	10,830	11.8%	0.7%	48.6%	-2.5%	23.7%
Montenegro	12,590	12.8%	7.9%	69.7%	-7.1%	n.a.
Serbia	11,230	14.4%	1.3%	56.8%	-4.8%	n.a.
Armenia	5,450	11.3%	0.0%	26.1%	-5.4%	42.7%
Azerbaijan	9,050	6.8%	n.a.	23.8%	13.9%	9.9%
Belarus	14,250	13.5%	n.a.	45.7%	-1.5%	22.3%
Georgia	4,960	14.4%	0.0%	33.8%	-9.4%	22.9%
Moldova	3,340	11.1%	0.2%	38.2%	n.a.	n.a.
Ukraine	6,560	15.7%	0.5%	78.6%	-5.4%	31.3%

Sources: * www.data.worldbank.org + EBRD Transition Indicators. The most recent data were available, with the exception of public debt data for Georgia (2007).

The 13 countries exhibit significant differences in the development of their pension systems and pension reforms (Table 2). Albania, Azerbaijan, Armenia, Belarus and Georgia have PAYG systems based on defined benefit pensions only. Five countries (Bosnia and Herzegovina,² Montenegro, Serbia, Moldova and Ukraine) introduced the third pillar (voluntary pension funds) as a complement to the PAYG system. Three countries (Croatia, Macedonia, Kosovo) introduced the second pillar based on managed mandatory individual retirement accounts. Only Croatia and Macedonia have fully developed systems comprising all three pillars: the defined benefit PAYG system, second-pillar managed individual retirement accounts and third-pillar voluntary pension funds.

Pension expenditures (PAYG only) as % of GDP also differ widely. Ukraine (17.8%) and Serbia (14%) are outliers, not only in this sample but on the global scale as well. They have a high fiscal burden, which probably crowds out other necessary functions of the government. This calls for immediate and deep pension reform. Ukraine adopted most of the legislation needed to complete the reform by introduction of the second pillar.

Albania, Armenia, Azerbaijan and Georgia are on the opposite side of the spectrum, with public expenditures for pensions significantly below 10% of GDP. Relatively low social costs coupled with the young population (in Albania and Azerbaijan) make the need for fundamental reforms less pressing in the short term. However, the Croatian case study shows that significant problems may arise if reform is undertaken too late.

Croatia, Bosnia and Herzegovina, Montenegro, Macedonia, Belarus and Moldova have public expenditures on pensions in a narrow range of around 10% of GDP. This makes these countries similar to developed European economies. Therefore, they are facing consequences of demographic transition that are magnified by consequences of the postcommunist transition and postcommunist conflicts. In these countries, exogenous shocks added up and influenced economies and societies at the level of development much lower than the European average. Therefore, the burden of the pension system may present a serious obstacle to faster economic growth.

The mechanics of the fiscal burden of pensions and its potentially disturbing consequences are evident in a very simple model. It shows that in an equilibrium (no deficit) situation, revenues (left side) equal total pension expenditures (right side): the product of multiplication of the number of employed persons (E), average wage (w) and the contribution rate (c) equals the product of multiplication of the number of pensioners (N) and the average PAYG pension (p). The ratio of the average pension to the average wage (replacement rate) depends on the ratio of the number of employed people to the number of retired people and the contribution rate:

$$Ewc = Np$$

$$\frac{p}{w} = \frac{E}{N} c$$

If the contribution rate (c) is already high, the authorities will hesitate to lift it up. At the same time, the aging of the population is reflected in a declining ratio of employed persons to pensioners E/N . In this case, either the replacement rate (p/w) needs to decline (adequacy problem) and/or the pension system must begin to create a fiscal deficit (sustainability problem).

² Republika Srpska only. Preparations for introduction of the third pillar are underway in the Federation of BiH.

Table 2 Structure and parameters of pension systems and contributions in 13 countries

	First pillar PAYG	Second pillar mandatory	Third pillar voluntary	Contribution rate, PAYG	Contribution rate, mandatory second pillar	Statutory (early) pensionable age for men (PAYG)	Statutory (early) pensionable age for women (PAYG)	Pension expenditures (zero and first pillar) as % of GDPxxxxx
Croatia	DB*	Implemented 2002, contr. rate 5%	Yes	15%-20%***	5%	65 (60)	60 (55)xx	10.3%
Albania	Basic pension only	---	---	21.6%-23%	---	65 (62)	60 (57)	6.1%
Bosnia and Herzegovina – Federation	DB	---	---	24%x		65 (60)	65 (55)	9.4%
Bosnia and Herzegovina – Republika Srpska	DB	---	Yes	24%x		65	60	10.3%
Kosovo	Social pension only**	Implemented 2003, contr. rate 10%	Yes	---	10%	65	65	n.a.
Macedonia	DB	Implemented 2006, contr. rate 7.4%	Yes	13.8%-21.2%***	7.4%	64	62	9.4%
Montenegro	DB	Partly legislated	Yes	20.5%		64	59xxx	9.6%
Serbia	DB	---	Yes	22%		65 (53)	60 (53)	14.0%
Armenia	DB	---	---	24%		63	63	4.3%
Azerbaijan	NDC	---	---	25%		62	57	3.8%
Belarus	DB	---	---	29%		60	55	10.2%
Georgia	DB	---	---	25%		65	60	3.0%
Moldova	DB	---	Yes	17.6%-29%x		62	57	9.1%

	First pillar PAYG	Second pillar mandatory	Third pillar voluntary	Contribution rate, PAYG	Contribution rate, mandatory second pillar	Statutory (early) pensionable age for men (PAYG)	Statutory (early) pensionable age for women (PAYG)	Pension expenditures (zero and first pillar) as % of GDPxxxxx
Ukraine	DB	Partly legislated Contr. rate 2-7%	Yes	34%		60	55xxxx	17.8%

* DB – defined benefit system usually based on points in the pension formula which takes into account a basic pension plus points depending on the years of contribution payments and potentially other relevant criteria. In some countries, like Kosovo, an universal minimum pension is paid from the general budget independent from contributions paid during the working age – this type of pension is called the social pension. The NDC (notionally defined contribution) system exists in Azerbaijan, where it is called the second pillar. However, this is not the second pillar in the sense used in this study as individual accounts are kept with the state fund which pays PAYG pensions. In this respect, it is conceptually similar to the DB PAYG system;

** universal minimum funded from the general budget;

*** 13.8% for members of the second-pillar mandatory scheme, 21.2% in total for non-members in Macedonia, 15% for members of the second-pillar mandatory scheme, 20% in total for non-members in Croatia;

x contribution base is not the same in Federation of BiH and Republika Srpska, so effective rates differ somewhat. The problem is similar in Moldova; there are big differences in contribution rates depending on the employment regime;

xx statutory pension age for women is gradually shifted from 60 to 65 years starting from 2012;

xxx Montenegro has started a pension system reform that includes transition of the statutory pensionable age. Numbers in the table reflect the transition as of 2011. The final aim is to lift the statutory pensionable age to 67 years for both men and women by 2040;

xxxx just at the time of writing this study, Ukraine introduced a gradual lift up of the statutory pensionable age for women up to 60, but at the same it introduced an early retirement option at 55, which would initially offset intended savings;

xxxxx the latest data available in the World Bank database.

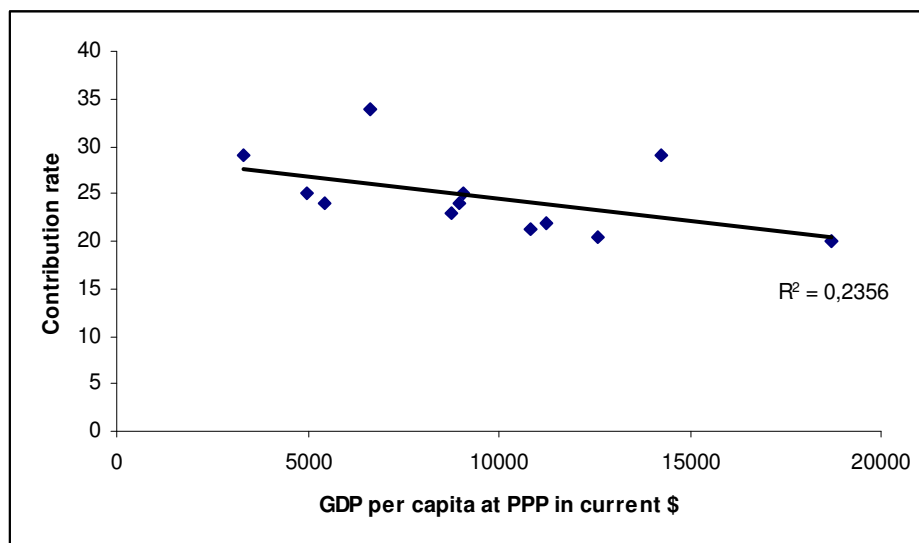
Sources: www.issa.org and www.worldbank.org.

One of the peculiar features of pension systems in the sample of 13 countries is that contribution rates are very high. This conclusion is supported by international comparisons. The average pension contribution rate (including both workers' and employers' contributions) in advanced European countries is 20%, strongly influenced by Italy (33%) and Portugal (35%) – the two economies that have exhibited weak growth potential for more than a decade. The average pension contribution rate in the sample of 13 countries is 25%, with Ukraine (34%) and Belarus (29%) pushing the average up. Even without Ukraine and Belarus, the average rate in the sample is substantially higher than in the developed economies of Europe.

Even more interesting: less developed countries within the sample have higher contribution rates than more developed ones (Figure 1). This is a peculiar feature, as tax burden and public expenditures on average grow (in relative terms) with economic development, not vice versa.

This perverse relationship has serious labour market implications. Higher contributions in less developed countries may be associated with weaker institutions, lower incentives for work, larger shadow economies (and economic and social distortions associated with it) and bad policies. Therefore, pension reforms may be motivated by other motives than demography: increasing labour force activity (changing incentives), promoting domestic savings and absorbing the shadow economy.

Figure 1 Less developed economies have higher rates of pension contributions



The pre-reform experience in Croatia shows the same pattern regarding contributions. Until the end of the Homeland War in 1995, the contribution rate was 27%. Half of it was paid by employees out of gross wages, and another half by employers as an add-on on gross wages. From 1995 to 2003, the authorities envisaged a gradual decline in contributions, so that by the beginning of the reform the contribution rate was 20% paid by employees. Starting from 2002, a quarter of the contribution has been allocated to individual retirement accounts managed by second-pillar mandatory pension funds.

Room for reduction in contributions is limited when the ratio of employed to pensioners (E/N) declines. In terms of the formula given above, anything that changes the ratio of employed to pensioners (E/N) affects the sustainability of the pension system. That is the reason why pension system reforms usually start with the so-called "parametric reforms". Main PAYG parameters that define strictness of retirement conditions are: statutory and early retirement

age, conditions for disability and other types of privileged retirement benefits, as well as a number of parameters that enter the pension calculation formula (e.g. indexation that links pensions to wages and/or prices, accrual rates and the like).

Involvement of international agencies has pushed a number of countries in the sample towards parametric reforms in recent years. It is beyond the scope of this work to list recent parametric reforms in the 13 countries covered by the PFS, but it is important to note that the key ingredient of parametric reforms in many countries is a gradual postponement of the retirement age and its equalization for men and women. This kind of reform is usually undertaken as part of a broader reform package which usually includes some of the following measures:

- diminished incentives (“penalties”) for early retirement;
- incentives to work beyond the retirement age;
- maximum pension caps;
- limitations on pensions of privileged groups (privileged are defined as groups that by the construction of their pension claims receive pensions that are weakly associated with contributions paid during the period of work and contributions’ payment);
- increase in minimum insurance periods, etc.

Pension reforms are topics of strong political interest. The older the population is, the stronger its impact on the election outcome. This is supported by the well-known political fact that younger people exhibit electoral abstinance. This may be the reason why many countries give up on parametric reforms. For example, Moldova had embarked on a parametric reform by gradually prolonging the statutory retirement age in 1999, but postponed it subsequently. The next chapter shows how retirement benefits from the first pillar relative to the second pillar constantly changed in Croatia, which led to shifts in perceptions of the effectiveness of reform. These shifts are the product of a specific political economy of intergenerational relations, which is also discussed in detail in the following chapter.

In this respect, it is of utmost importance to understand the complexity of interactions among different components of multi-pillar pension systems. The case of Croatia discussed in the next chapter shows that unexpected changes in PAYG parameters after the beginning of the reform fundamentally changed expected benefits from the second pillar relative to the first pillar. This created a sense of unfairness and, ultimately, strong political pressures. Pressures pave the way to reform reversals such as those seen in Hungary and Poland.

A useful framework for thinking about all relevant aspects of complex reforms involving the first (PAYG) and the second (mandatory managed individual retirement accounts) pillar is to look at *sustainability* and *adequacy* of the pension system at the same time.

A sustainable pension system is a system which is not a Ponzi-scheme i.e. which does not rely on perpetual increases in public debt. *An adequate pension system* is a system which allows for retirement pensions that provide reasonable income in relation to wages of working people. While the word *reasonable* involves certain arbitrariness, the ILO and the EU define an adequate replacement rate in the range between 45% and 66% for people who worked until the full statutory retirement age. The fundamental problem with traditional unreformed PAYG systems is that adequacy and sustainability may present an insolvable trade-off due to aging or institutional and economic weakness – an adequate system may become unsustainable, and vice versa.

Our simple model shows why. It is easy to calculate the replacement rate $\frac{p}{w} = \frac{E}{N} c$ if the initial equilibrium is given by $p/w=0.5$; $c=0.2$; $E/N=2.5$. Figure 2 shows how p/w diminishes as E/N

declines due to aging, lack of incentives to work or for any other reason. It is arbitrarily assumed that E/N halves in 40 years from now (measured on x axis). Figure 3 looks at the same problem from another angle. It shows how much the rate of contribution would have to rise in order to preserve the replacement rate at 50%. Finally, Figure 4 allows for deficit (D). It shows the pension system deficit as % of pension expenditures (D/pN), assuming that the rate of contribution and the replacement rate do not change. The results show how astonishingly strong is the impact of halving E/N in 40 years (for whatever reason that may happen): Figure 2 shows that the replacement rate may fall from 50% to 25%; Figure 3 shows that the rate of contribution would have to double and Figure 4 shows that deficit would reach 50% of pension expenditures. If pension expenditures represent 10% of GDP, this would translate into a perpetual generator of fiscal deficits of the order of magnitude of 5% of GDP per annum. The lesson is that an unreformed PAYG system may not be able to solve the sustainability vs. adequacy trade-off.

Figure 2 Replacement rate (p/w) has to fall if (E/N) declines and contribution rate does not change

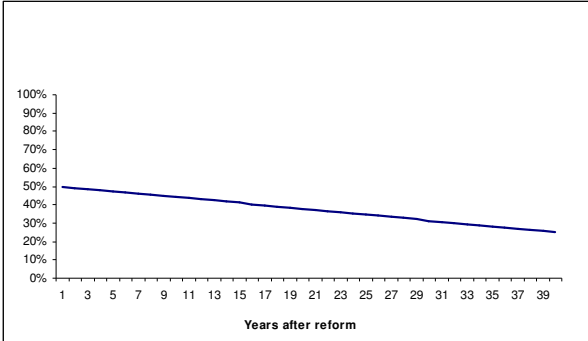


Figure 3 Contribution rate (c) has to go up if (E/N) declines and (p/w) does not change

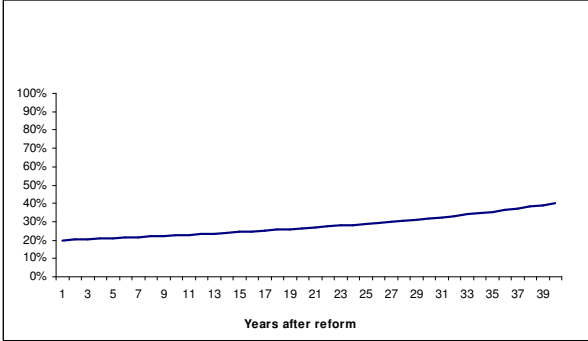
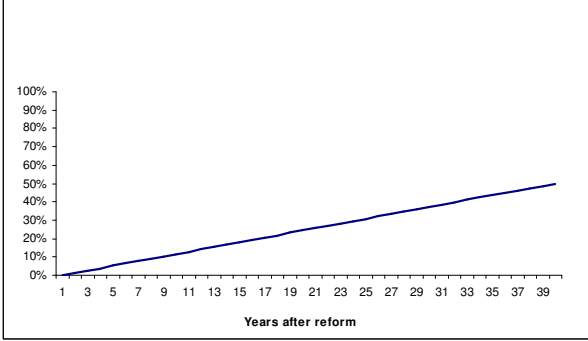


Figure 4 Deficit to pension expenditures (D/pN) has to go up if contribution rates and (p/w) do not change



The political economy of many countries (regardless of the level of democratic development) produces collective myopia and late reactions to the pension sustainability problem, as seen in the case of Croatia. Countries usually begin to fix the sustainability problem only after it is almost too late. Usually, the deficit and contributions are already very high and the replacement rate is low when the reform commences. This creates lots of political tensions and reduces the number of democratic options available to deal with the problem of an aging society. It is also the fundamental reason for occasional reform reversals.

Nevertheless, introduction of the second pillar – mandatory payment of contributions to managed retirement accounts, emerged as a potential solution. Although its successes in Chile starting in the 1980s promoted the concept, it is the design and expected benefits created by the multi-pillar system which made it particularly attractive.

A mandatory second pillar was seen not only as a financial solution, but primarily as a means to diminish dependence of future pensioners on political allocation mechanisms (which will probably be very cumbersome due to the aging of voters), leading them to rely on markets instead. And markets looked promising ten years ago. At that time it was expected that the “convergence play” would continue for several decades throughout New Europe.

It is easy to see how the reform works from our simple model. The contribution rate is split in two parts: part one for PAYG pensions and part two, which is paid to second-pillar managed pension funds (PF):

$$c = c^{PAYG} + c^{PF}$$

Also assume an initial deficit D of the PAYG system whose size in percent of total pension expenditures in the PAYG system (like in Figure 4 above) is depicted by the following expression:

$$\frac{D}{pN} = \frac{c^{PAYG} wE}{pN} - 1$$

Assume an initial deficit $D/pN=0.4$ that is translated into a fiscal deficit of 4% of GDP, if pension expenditures represent 10% of GDP. Initial (E/N) is 1.5 and it halves in the next 40 years by assumption. Simplify a lot and assume that every employed person from the inception of reform pays part of the contribution (say, one quarter) to an individual retirement account managed by professional investment managers. The formula for pension from the second pillar takes into account that contributions are capitalized in proportion to the rate of return on investment (r):

$$\left(\frac{P}{w}\right)^{PF} = c^{PF} (1+r)^n$$

In this simplified model, which ignores the existence of different cohorts but simply reveals the essence of the reform, the total replacement rate equals the sum of replacement rates from the

first and the second pillar: $\frac{P}{w} = \left(\frac{P}{w}\right)^{PAYG} + \left(\frac{P}{w}\right)^{PF}$. Obviously, there is a trade-off – “transition

costs”. A larger share of the contribution paid to individual accounts in the second pillar implies a higher fiscal deficit in the PAYG system unless a parametric reform is undertaken to eliminate the “transition costs”. These “costs” are largely an illusion for the society at large, but are not an illusion for its generational segments. From a social perspective, it is equal to the present value of implicit public debt created by pension rights in the PAYG system. The society has to pay for it anyway. What really matters is who pays. Without reform, debt is rolled over and implicit public debt to be paid by future generations increases. With reform, this debt becomes explicit in the

form of transition costs, which have to be paid in part by present generations via a parametric reform of the PAYG system.

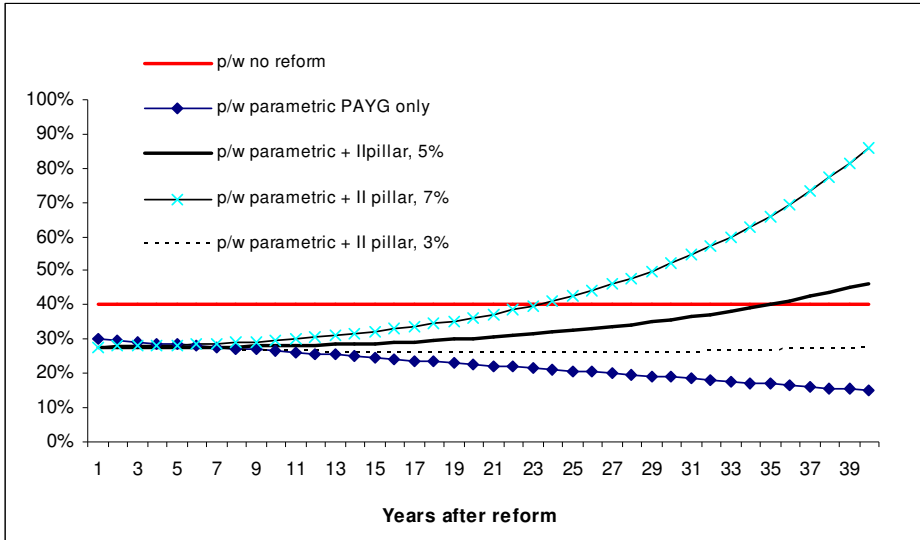
Hence, transition costs are politically determined “costs” that have distributional consequences only: higher transition costs imply a shift of resources from current to future pensioners if the costs are borne by current pensioners. For more details, see the box below. For our main argument it is important to note that the existence of transition costs shows that the full scope of the pension reform, aiming at introducing the multi-pillar system, has to take into account parametric reform of the PAYG system, which has serious distributional consequences.

The simulation in Figure 5 shows what happens when *transition costs* are shifted to the current generation of pensioners. A radical parametric reform of the PAYG system implies that the fiscal deficit (transition costs) is eliminated by simply adjusting the replacement rate downward on the first day of reform. If a government decides to undertake a radical PAYG parametric reform in order to balance the pension budget, p/w immediately drops to 30% and continues to decline in the following four decades. This is the marked blue line far below the other lines in the right lower part of the figure. It means that sustainability is restored at the expense of adequacy for the current generation of pensioners.

The horizontal red line represents the opposite case. The initial replacement rate, which is arbitrarily set at 0.4 (40%), goes on forever. Since (E/N) halves in 40 years, the scenario described by the red line implies a growing fiscal deficit. It increases from 40% of total pension expenditures to 70% by the end of the simulation period. This is clearly an unsustainable situation: adequacy remains the same (red line) and sustainability decreases dramatically (deficit increases). The lesson to be learned here is that *the unreformed PAYG system cannot strike a proper balance between sustainability and adequacy of the pension system if aging or any other reason leads to a decline in the ratio of employed to pensioners E/N .*

The trade-off can be solved by the introduction of the mandatory second pillar. Capitalization of retirement savings leads to a recovery of the replacement rate (which combines the first and the second pillar pension). However the recovery happens in the long run, *depending on the average net return realized by investment managers*. Even in the case of a 3% annual net return on average, the replacement rate in the combined reformed system exceeds p/w from PAYG 10 years after the beginning of the parametric reform. With a 5% annual net return, p/w crossover happens after 7 years and with a 7% net return after 5 years.

Figure 5 Replacement rate (p/w) under different reform scenarios

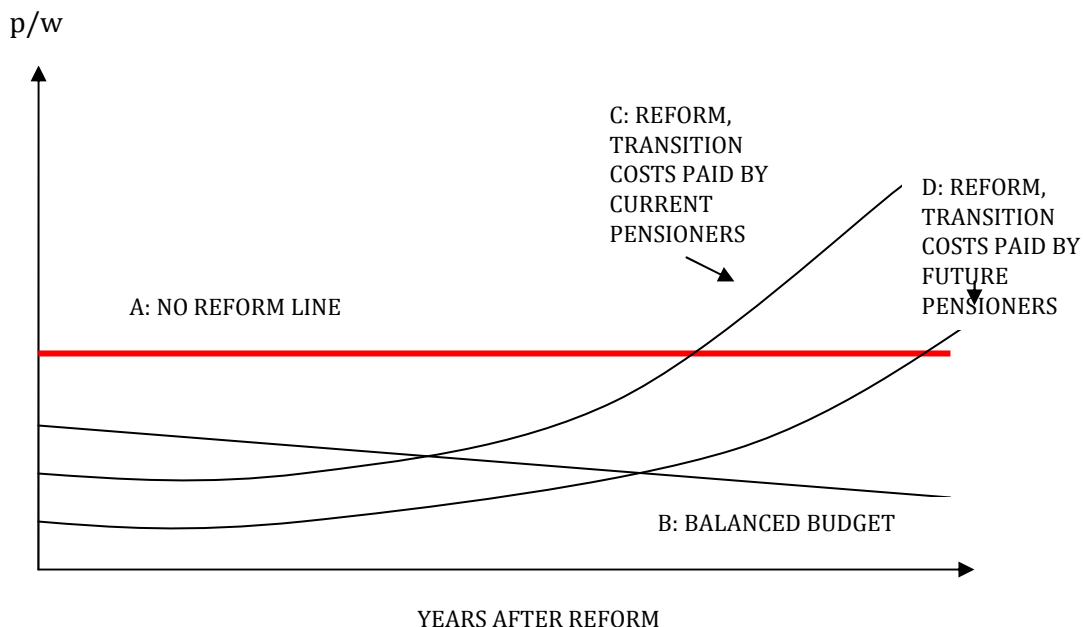


Box 1 Transition costs of pension reform

Gross or maximum transition costs are equal to contributions that are redirected to the second pillar. If the pension system reform creates positive externalities (higher economic growth due to capital markets development, higher tax compliance, etc.), net transition costs may be smaller than gross transition costs. The remaining deficit (transition costs) may be covered in different ways, which determines the direction of intergenerational redistribution. If there is no parametric reform of the PAYG system, costs can be funded by debt or higher public revenues. In both cases costs are paid by future pensioners, which are supposed to be the main beneficiaries of the reform. The extent of the parametric reform determines the allocation of costs between current and future pensioners. Transition costs can also be financed by sales of public assets, which makes the distributional effects unclear: as assets produce benefits over time, it is not clear which generation would lose more by giving up the stream of expected income from public sector assets.

Figure 6 shows what happens when current pensioners manage to resist the burden of transition costs. Transition costs are proportional to a vertical difference between lines A (no-reform line) and B (balanced budget line). These costs are very different for different cohorts but only the concept is presented here. Line C represents the replacement rate (p/w) after reform, if the whole of transition costs is borne by current pensioners. However, after redistribution of costs in favour of current pensioners (whose p/w evolves along the red horizontal line), future pensioners (current workers) have either to pay higher taxes or to service public debt, which is equivalent to having a lower return on their retirement savings in the second pillar. So, line C shifts out and becomes line D. The shift can be so strong that benefits come after too many years, so no generation would have any interest to vote for the reform. This figure shows that the distribution of transition costs is about finding a proper political balance in order to collect enough votes for the reform from all generations.

Figure 6 Effects of intergenerational redistribution



The following lessons should be learned from the introductory chapter:

1. An unreformed PAYG system cannot strike a proper balance between sustainability and adequacy if the ratio of employed to pensioners is expected to decline (for whatever reason) in the long run.
2. A multi-pillar reform needs to be accompanied by a parametric reform of the PAYG pillar in order to find a balance regarding distribution of transition costs between current and future pensioners.
3. Too much burden on the current generation of pensioners may block voting mechanisms as current pensioners may oppose reform; too much burden on future generations of pensioners may shift benefits too far in the future, thereby weakening any incentive for reform. One of the critical roles played by policy makers is to align incentives across different generations, but this balance does not depend on these factors only. It is country specific and depends on a number of other factors.
4. Attractiveness of the reform critically depends on long-run net returns realized in the second pillar. For that reason, a well designed reform needs to satisfy the key prerequisites for the realization of reasonably high long-run returns: competition, professionalism and independency of investment managers as well as reasonably low costs of management and operations. Nevertheless, even relatively moderate returns may justify multi-pillar pension reform for other reasons.
5. The countries covered by the PFS program have unusually high contribution rates that are probably high enough to create significant distortions. A pension reform that would change economic incentives is an attractive option, even for countries without the aging population problem.
6. Aging is the most pressing problem in Croatia, Ukraine, Serbia and Georgia. Croatia undertook a comprehensive multi-pillar reform in 2002, while other countries have been lagging behind, with Ukraine moving a bit faster than Serbia and Georgia, but still being too slow in light of its fundamental problem (the highest pension budget in relation to GDP in Europe).
7. Other countries in the PFS group, with the exception of Albania and Azerbaijan, also suffer from aging pressures and high contributions. Within the aging group, Macedonia alone has embarked on a comprehensive multi-pillar reform. Others are contemplating it, but most of them, for the time being, are combining the PAYG systems with the third voluntary pillar. This solution will probably be insufficient to deal with the problem.

Perhaps the time is ripe for another round of consideration of broader reforms. The time of crisis does not seem to be a perfect time for that, especially since some of the early reformers (Hungary, Poland) have been reversing their reforms due to short-run fiscal pressures, doubts about future returns or, simply, bad policies. Also, capital markets lost much of their allure and attractiveness during the global financial crisis. Nevertheless, this is exactly why broader reforms should again be placed in focus. In the last decade or so we have received extreme financial shocks. We have seen how different societies react to intergenerational problems at times of crisis. The lesson to be learned is that problems within pension systems have been mainly induced by slow reform, myopia, lack of coherent economic policies and policy reversals, rather than by pension reforms themselves. At least that is the lesson to be learned from the case of Croatia, which is presented in the next chapter.

II Case study: Croatia

After the end of the Homeland War in 1995, Croatia speeded up economic and social reforms. Consequences of the war were felt in all areas of the society, including the pension system. Entry to the system was porous due to corruption related with disability allowances. Special pensions for war veterans and intentionally easy entry for workers losing jobs due to restructuring of their enterprises created an additional burden for the pension system. High direct taxes on labour (including health contributions) distorted incentives and helped create a large shadow economy. The government reduced contributions from 27% at the end of the War to 20% at the onset of the reform in 2002. This may have helped in reducing the unofficial sector but, among other factors, it also magnified the fiscal deficit problem. Finally, aging of the population raised the issue of long-run sustainability.

Stakeholders adopted the view that the PAYG system needs to be reformed. IFIs, notably the World Bank, played a major role as technical assistants to the government. Transition optimism also played a role in promoting the reform. It was expected that both nominal and real convergence towards the EU have yet to happen. A multi-pillar reform was seen as a way to capture the “growth dividend” and share it among the working population. On top of it, the Chilean experience was pointing at potential success. Therefore, everybody expected that prices of financial assets would appreciate in the years to come.

Main elements of the reform

A multi-pillar pension reform was a natural policy choice. Legal prerequisites were in place as of 1999. The parametric reform of the first pillar PAYG system (at the basis of the 1998 Law) and the introduction of mandatory managed accounts in the second pillar as well as voluntary pension funds in the third pillar, represented a comprehensive and coordinated reform package.

The rate of contribution for the second pillar was the focus of early debates as it determined the size of transition costs. The possible range discussed at the time varied from 5% (one quarter of the uniform PAYG contribution rate) to 10% (one half of the uniform contribution rate). The rate was finally set at 5% without a legal commitment to raise it further (although there was a general understanding that it would have to be raised in the future).

However, the setting up of a regulatory agency and an agency for collection, administration and distribution of contribution payments (REGOS – simply, a Registry) lagged behind. As the 1999 elections were approaching, it was finally decided to postpone the reform for the new government to carry it out. The World Bank played a critical role in ensuring continuity as it persuaded the new government to continue with preparations for the reform.

The new government came to office in 2000. Second-pillar pension funds started operations in 2002, after another two years of preparations. All in all, 3 years passed between the adoption of the legal framework and operational start of the reform (first contributions to the second pillar were paid in April 2002), with elections happening in the meantime.

The first stage of the reform was based on the 1999 Law on Mandatory and Voluntary Pension Funds, which contained the following main provisions:

- Mandatory Pension Fund Management Companies (MPFMC) managing second-pillar mandatory pension funds (MPF) can manage only one MPF and have to be separated

from VPFMCs managing third-pillar voluntary pension funds (VPF), which can manage a larger number of VPFs.

- The minimum capital is HRK 40 million (\approx EUR 5.5 million) for MPFMC and HRK 15 million (\approx EUR 2.0 million) for VPFMC. If the number of members in an MPF exceeds 100,000, for every 10,000 members above 100,000, capital needs to be raised by HRK 1 million (\approx EUR 135,000). Amendments adopted in 2003 lowered this threshold to every 10,000 members above 50,000.
- The minimum number of members in MPFs was initially set at 80,000 (\approx 1.8% of the population and 6.2% of the total number of employed persons at that time) and 2,000 in VPFs. The Law was amended in 2003 lowering the limits to 50,000 for MPFs and 200 for VPFs.
- All persons under 40 had to choose a MPF six months after the beginning of the reform or after first employment. Persons over 50 were not allowed to participate. Persons between 40 and 50 years of age at the onset of the reform had the right to choose. They could join an MPF scheme, in which case they would get the combined basic pension from the first pillar and the annuity based pension from the second pillar, or they could stay in the PAYG system. Persons under 40 or those who get first employment afterwards and fail to choose an MPF within 6 months are allocated by REGOS (central registry) in proportion to existing MPFs' market shares measured by the number of fund members.
- Members can shift their retirement account from one MPF to another. There is no exit fee if the shift happens within a 3 year interval. In the first years after the beginning of the reform, the following rules applied: the first shift was free of exit fee if it happened within the first year after the inception of the reform. The following exit fees applied afterward: 5% in the first year, 2.5% in the second year, 1.25% in the third year, 0.62% in the fourth year and 0.31% in the fifth year of membership. The 2003 amendments lowered exit fees significantly; they were abolished after year three and the cascade was: 0.8%, 0.4% and 0.2% respectively for shifts in the first three years.
- An individual retirement account is inheritable and non-transferable. It cannot be included in assets under bankruptcy or liquidation. It cannot be pledged.
- Members are entitled to a guaranteed return. If the benchmark return is positive, the guaranteed return equals 1/3 of the benchmark return. If the benchmark return is negative, the guaranteed return equals 3 times the benchmark return. The benchmark return³ is the weighted geometric mean of the returns in the previous three years, where individual MPF's NAVs are used to determine weights. The difference between the guaranteed return and the MPFs return (if positive) is paid from MPFMC's capital up to 20% of its value or from the government budget, if higher than 20% of capital.
- A management fee is set at a maximum of 0.8% for the first year of operation. The regulatory agency is entitled to determine a management fee starting from the second year of operations. The maximum fee was shifted up to 1.2% by the 2003 amendments. It is currently set at 0.65%.
- MPFMCs are entitled to 25% of real net returns (after cost). 75% of the success fee has to be kept as a guaranteed deposit for at least three years after charge. This provision was abolished by the 2003 amendments.

³ The benchmark return is not stipulated in the law. The exact definition is determined by the regulatory agency.

- An entry fee is 0.8%, paid to an MPFMC. REGOS is funded from the central budget. As of 2011, REGOS introduced a monthly lump sum per member (2.5 HRK) that is paid by MPFMCs to REGOS.
- An MPFMC pays for transaction costs. The 2003 amendments changed this provision. Transaction costs are now charged to MPFs.
- Investment limits are described in the table below (later amendments included). Limits are determined in % of total assets. Note that the 2007 amendments reduced the number of definitions of asset classes and increased the regulator's discretion in setting investment limits. Limits are discussed in more details in a separate section below.

Table 3 Investment limits prescribed by the law

ASSET CLASS	LIMIT		
	Initial	2003	2007
Foreign assets	Up to 15%	Up to 20%	Abolished
Short-term debt securities issued by the Croatian government and the central bank	Up to 5%	Up to 15%	Abolished
2007: broadened to include governments and central banks from EU and OECD countries as well as bonds guaranteed by any of these entities; also, the short-term provision was abolished, so the no limit provision applies to securities of all maturities			
Long-term bonds and other long-term debt securities issued by the Croatian government and the central bank	At least 50%		Abolished
Local government long-term bonds and other long-term debt securities issued by local governments in Croatia	Up to 30%		Abolished
Long-term bonds and other long-term debt securities whose issuers are listed in organized markets in Croatia, subject to additional rules of the regulatory agency	Up to 30%		Abolished
2007: Debt securities traded in organized exchanges in Croatia, EU and OECD countries, issued by issuers (local governments and joint stock companies) from Croatia, EU and OECD countries			
Stocks listed in the first quotation of organized markets in Croatia and UCITs shares, subject to additional rules of the regulatory agency	Up to 30%		Abolished
2007: Stocks traded in organized exchanges in Croatia, EU and OECD countries, issued by issuers from these countries			
Long-term bonds and other long-term debt securities issued by governments of OECD countries, subject to additional rules of the regulatory agency	Up to 15%		Abolished
Long-term bonds and other long-term debt securities issued by other issuers from OECD countries, subject to additional rules of the regulatory agency	Up to 10%		Abolished
Stocks listed in organized exchanges in OECD markets, subject to additional rules of the regulatory agency	Up to 10%		Abolished
Stocks and shares in domestic closed-end and foreign closed- and open-end investment funds if they are investing in securities issued by issuers from OECD countries, subject to additional rules of the regulatory agency	Up to 5%	Up to 15%	Abolished
			Up to

ASSET CLASS	LIMIT		
	Initial	2003	2007
2007: Shares in open- and closed-end investment funds issued in Croatia, EU and OECD countries			30%
Securities issued by a single issuer and/or connected persons that are treated as a single issuer	Up to 5%		Abolished
2007: Deposits, deposit certificates and repo agreements issued by issuers from Croatia, EU and OECD countries			Up to 20% (Up to 2.5% if single issuer)
Cash (added by the 2003 amendments)		Up to 5%	
Forward contracts (only for hedging purposes)		Up to 30%	Up to 100% of NAV
2007: Introduction of limit on open currency position (lack of precise definition)			Up to 30%
2007: Other asset classes, subject to approval of the regulatory agency			Agency's discretion
2007: Regulatory agency can prescribe limits on holdings of different asset classes taking into account credit ratings			

- Funds accumulated in an individual retirement account cannot be paid out. Upon retirement, and not earlier than at the age of 50, a member can transfer own funds to a pension insurance company (PIC), regulated by a special law. PICs offer pension plans and retirees are free to choose among PICs.
- Savings in VPFs are subsidized by 25% of the invested amount per annum, up to an upper limit of annual savings of HRK 5,000. In 2005, the subsidy was reduced to 15%.
- The law also contains detailed provisions on the regulatory agency, separation of assets, custody (bans on connected persons), valuation, licensing and authorization, marketing, explicit bans on the sale of MPF's assets, extending credit, investment in real estate, non-listed securities and other asset classes.

Results: PAYG

The parametric reform of the PAYG system started in 1998, but there were major reform reversals in 2004 and especially in 2007. Both were driven by political cycles. The 2007 reversal happened in August, while elections were in November. Pensioners account for close to 30% of the electorate, but their share is much higher when compared to the number of people who actually vote. Pensioners even have their own political party.

The main parameters of the present PAYG system are the following:

Retirement age: Old-age pension: Men 65; Women 60 years and 3 months (rising to 65 years by 2030); Early retirement pension: Men 60 years of age/35 years of work; Women 55 years and 3 months of age/30 years and 3 months of service (rising to 60/35 years by 2030).

Calculation period for old-age: life-time average earnings.

Pension determination for those only in PAYG: point formula.

Pension determination for those in both pillars:

i. For pre-2002 years of service: point formula;

ii. For post-2002 years of service: basic pension + second pillar annuity.

Indexation: Twice a year, 50% CPI in previous 6 months + 50% wage rate in 6 months before that.

Early pension decrement: 1.8-4% per year, depending on years of service, decrement is permanent.

Late retirement bonus: 0.15% for each month of late retirement.

Minimum pension: 0.825% of 1999 gross wage per each year of service, indexed same as point value.

Maximum pension: maximum average annual points of 3.8.

Contribution rate: 20% of gross wage; for those in both PAYG and second pillar, 15% goes to the first pillar, 5% on individual account in the second pillar.

Minimum contribution base: 35% of average wage in previous year.

Maximum monthly contribution base: 6 monthly average gross wages in Croatia.

2007 amendments included the so-called “pension supplement” in the calculation of the PAYG pension. The supplement amounts to 4% for those retired in 1999. Then it increases gradually towards 27% for those retired in 2010 and beyond.

The main intention to make the first pillar sustainable was not attained as planned at the onset of the reform. Designers of the reform initially expected to eliminate the deficit early in the second decade after the beginning of the reform. Numbers in Table 4 show that the deficit is persistent. It is moving up and down with the economic cycle (in a counter-cyclical fashion). Perhaps it shows a very mild downward trend after correction for cyclical variation (yet to be determined after several more years of data), but the structural fiscal deficit in the PAYG pension system still ranges around 4% of GDP. That is the price paid for a very stable replacement rate. It remained stable even in the crisis, after a dramatic decrease in the ratio of employed to pensioners in 2009 and 2010.

Table 4 PAYG results

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
PAYG pension expenditures as % of GDP	11.9	11.3	10.8	10.5	10.2	10.0	9.6	9.7	10.5	10.6
Pension contributions as % of GDP	6.9	6.0	6.0	6.0	5.9	5.8	5.8	5.9	5.9	5.7
Balance as % of GDP	-5.0	-5.3	-4.8	-4.5	-4.3	-4.2	-3.8	-3.8	-4.6	-4.9
Employed / pensioners	1.27	1.29	1.31	1.30	1.31	1.33	1.35	1.35	1.24	1.15
Replacement rate, average net as of end-year in %	48.6	46.5	45.5	45.1	44.8	43.8	44.1	43.3	44.8	43.3
Memo: % growth of GDP	3.7	4.9	5.4	4.1	4.3	4.9	5.1	2.2	-6.0	-1.2

Sources: Ministry of Finance of the Republic of Croatia, www.mfin.hr; Croatian Institute for Pension Insurance, www.mirovinsko.hr; calculations by Arhivanalitika.

Recalling the discussion in the first chapter, an obvious implication is that the huge and persistent deficit after almost a decade of reform suggests that the transition costs of the reform are being shifted from current to future pensioners. That is obvious at the micro level. Namely,

the pension supplement was granted to PAYG pensioners only. Persons who retire from the combined first and second pillar receive only the basic pension from the first pillar. This basic pension does not include the supplement. As the first persons entered early retirement from both pillars in 2009, their pensions were below those they would have had from the PAYG had they not chosen the second pillar in 2002. In 2002, they were between 40 and 50 years old, so they had the right to choose whether they want to stay in the first pillar, or join a mandatory pension fund.

This problem emerged due to a number of factors that acted simultaneously:

- Introduction of the pension supplement at an increasing rate, so the rate of supplement for persons retiring in 2009 was already as high as 26.4%. This was the main reason for the difference.
- Short capitalization period (since 2002) was not long enough for the annuity pension component from the second pillar to make up for the difference between the PAYG pension and the basic pension from the first pillar for those retiring from both pillars.
- The financial crisis and declining asset values added to the problem, but this factor was not decisive.

Huge social sensitivity and political power of pensioners turned this into a problem which was perceived as systemic and political, although the number of persons affected by it was miniscule.

Initially, it was seen as an opportunity to dismantle the whole pension reform. Seeing money in the second pillar as a tool for cutting rapidly growing public debt, the former prime minister used the problem in 2009 to illustrate that the whole pension reform was a failure.

The populist attack on the reform swiftly faded out because the public and the media overwhelmingly stood up and defended the reform. People felt their individual retirement accounts are their personal property and the prevailing opinion was that the financially irresponsible government ran out of cash due to its own mistakes.

Nevertheless, the problem was perceived as the one that needs to be solved by public money. The Croatian catholic culture perpetuates strong demand for generous welfare state services, so it was not acceptable to “solve” the problem by declaring that these people simply made the wrong choice in 2002. After all, they could not anticipate in 2002 that the 2007 law would grant pension supplements to PAYG pensioners. Indeed, this problem called for a fairer solution.

The final solution was to allow people who freely chose the second pillar (those between 40 and 50 years of age in 2002), to choose freely once again. By the time they retire they will be allowed to choose between the combined first pillar – second pillar pension and PAYG pension. Fairness aside, that would continue to make pressure on the PAYG system and perpetuate its deficit.

Around a decade after the reform commenced, the comprehensive multi-pillar pension reform has not tackled the fundamental problem: the huge fiscal deficit and the associated intergenerational transfer. Demography and past policy mistakes made current pensioners politically very influential, so it is not yet clear whether and how this problem can be solved in the second decade of the reform.

Failure to address the problem had nothing to do with the reform design. Rather, it is the consequence of the late start of the reform. Had the reform started earlier, when the E/N ratio was higher, its political economy might have been different. Equally important, earlier accumulation of funds would have led to higher benefits from the appreciation of financial assets that took place between 2003 and 2007. Amounts paid to funds in this early stage of reform were still relatively small, so the impact of this bull market cycle on final pension assets is not to be felt at all. The real “fight” for returns has only just begun, since solid net returns can

compensate for the shift of transition costs to future pensioners. The problem of returns is closely linked with investment limits and capital markets development. These issues will be discussed in later sections.

Results: The second and third pillar

Seven mandatory pension funds (MPFs) started operations in 2002, but in 2003 only four of them met legally prescribed size conditions (defined in terms of the number of members). The same four funds are operational today. They all belong to international banking groups: AZ is a joint venture between Unicredit and Allianz, Raiffeisen and Erste Plavi belong to Austrian groups with a major presence in CEE and SEE countries, and PBZ/CO is a joint venture of the second largest bank, which belongs to the Italian banking group Intesa, and the largest Croatian insurance company, which is still majority controlled by the government.

It is not pure luck that these four funds met legally prescribed size conditions. Their capital, the ability to tap significant pools of human resources, exploitation of synergies in sales and marketing as well as brands and reputation, made them most attractive to members.

There were 1,561,454 members in second-pillar mandatory pension funds as of end-2010, compared to 983,310 as of end-2002. The number of members is nowadays higher than the number of employed persons and PAYG pensioners (1,381,676 and 1,200,386 respectively as of end-2010).

Mandatory pension funds' NAV represented 10.7% of GDP as of end-2010. This makes MPFs the second most important group of financial intermediaries in Croatia, after banks, which have assets of around 110% of GDP.

Table 5 Mandatory pension funds: main data

FUNDS	MEMBERS		NET ASSET VALUE	UNIT VALUE
	As of end-2010		As of end-2010,	As of end-April 2011 (9
	Number	Market shares	million € (% of GDP)	year annual average return)
				April 2002 = 100
AZ	561,646	36.0%	1,949 (4.2%)	163.10 (5.6%)
Raiffeisen	482,031	30.8%	1,486 (3.2%)	161.13 (5.4%)
PBZ/CO	277,623	17.8%	832 (1.8%)	154.04 (4.9%)
Erste Plavi	240,154	15.4%	652 (1.4%)	166.13 (5.8%)
TOTAL	1,561,454	100.0%	4,919 (10.7%)	161.39 (5.5%)

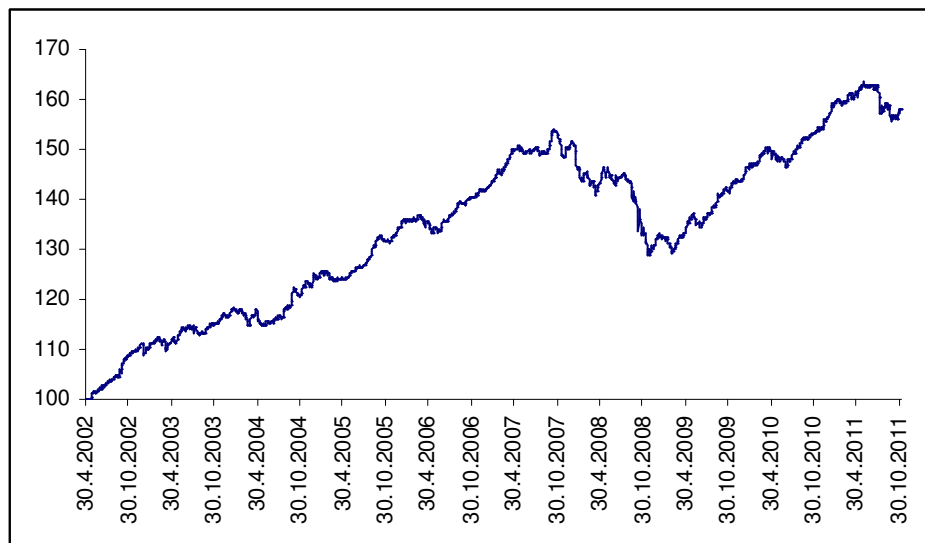
Source: www.hanfa.hr.

There were 187,469 members (13.6% of total employed persons) in open-end and closed-end voluntary pension funds. VPFs' NAV was € 238 million as of end-2010, representing 0.5% of GDP. The financial crisis destroyed trust in schemes that depend on the performance of capital markets. In addition, the government subsidy for voluntary pension savings was cut in 2005 from 25% to 15% (or maximum € 100 per annum). Until 2010, there were no tax incentives for employers to establish VPFs for their employees. As of mid-2010, tax incentives for employers

were introduced: payments to VPFs up to HRK 6,000 (\approx € 800) per employee per annum are tax deductible and no income tax and contributions are paid on this amount.

The net return of MPFs is and will be of critical importance when considering the success of the reform. The value of assets was badly hit by the global financial crisis, but fund managers managed to participate in the post-crisis recovery. The weighted index of unit values in 4 MPFs (MIREX) exhibits an average annual return of 5.5% in the period April 2002 to April 2011. Was this good or bad performance? The answer to this question is critical as it will shape members' and broad public opinion on the success of the reform. As the study will show, there is still no general opinion on this problem, but its formation will be critical in the second decade of the reform.

Figure 7 Value of unit of account in the second pillar – MIREX



Source: www.hanfa.hr.

Both the regulator and the industry failed to carry out professional measurements of funds' investment performance. Benchmarks are usually determined in order to evaluate the value added by a professional investment manager. There were no attempts to provide well-grounded benchmarks for objective public performance measurements. Such opportunistic behaviour was understandable on the side of the industry as managers had incentives to mimic each others' investment strategies and avoid too much comparison and measurement. This is evident in small differences in performances across funds and may probably be the main reason for stable membership; there were no large shifts across accounts in different MPFs during the first nine years of operations.

The failure to provide objective performance measurements opened doors to ad hoc discussions about funds' performance. Most discussions took place around the market cycle bottom usually pointing out that second-pillar investment managers are too expensive to produce attractive net returns in the long run.

Not all sceptical comments about performance aimed at dismantling the whole concept of the reform. After all, the reasonableness of fees paid to professional investment managers is a never-ending debate in the world of investment. The key problem was that, in the absence of transparent benchmarks, many observers believed that simpler and less expensive investment

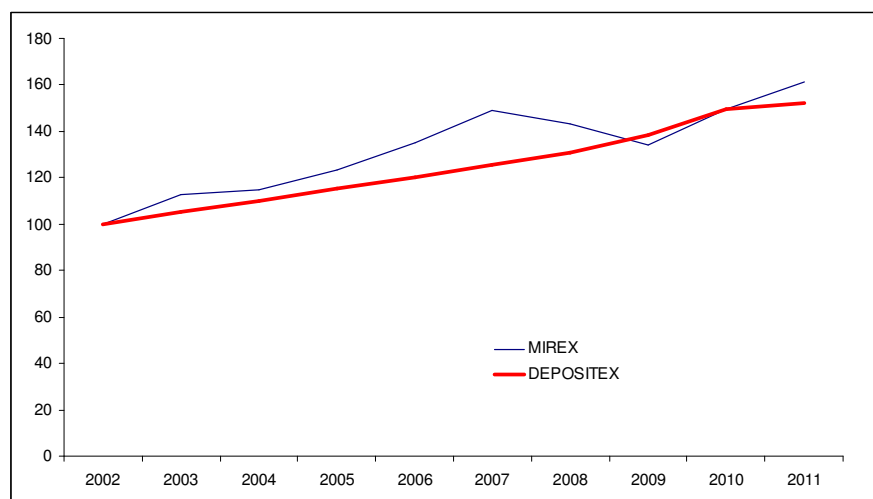
strategies may bring higher benefits in the long run. A common method applied in such discussions was to compare MIREX with interest earned on deposits with banks.

Figure 8 shows this comparison. It is designed on the basis of an ex ante calculation. Ex ante means that performance of MIREX at date t is measured against long-term HRK deposit interest rate reported by banks (average interest rate for new business reported by the Croatian National Bank) at date $t-12$. The interest-rate-based index is here labelled DEPOSITEX.

To some extent, the comparison is far-fetched because it uses the average interest rate for households and corporations, which is relatively high (higher than for corporate deposits). If MPFs would channel their assets towards banks, the deposit interest rate would decline substantially, as funds' assets would represent the bulk of new deposit inflows. So the comparison is biased against the MPFs' performance. Nevertheless, it shows that investment managers added value over DEPOSITEX.

Moreover, it is very likely that we are at the low of the market cycle in 2011 due to the crisis in Greece and Europe. This fact adds additional bias to measurement at this point in time. So, one may safely conclude that the argument against the performance of MPFs was a consequence of myopia and focus on several critical months in 2008 and 2009 when DEPOSITEX was above MIREX.

Figure 8 MIREX against long-term kuna deposit index DEPOSITEX



Source: www.hanfa.hr (Statistical review, t. G3).

The lesson to be learned is that performance measurement is an important element of the reform. It was neglected by both the regulator and the industry in the first decade of the reform. Performance measurement is not an easy topic; it requires in-depth knowledge, lots of public discussion, advocacy and control of risks of transparency in an environment of low financial literacy. The problem is not limited to selecting the proper benchmarks. It involves wider issues of accounting principles, audit practices and the like (see the box below). But credibility of the scheme rests upon understanding of these issues by members, policy makers, opinion makers and other stakeholders. A failure to present and promote understanding of transparent performance appraisals raises the danger of ad hoc conclusions, measures and policy mistakes.

Box 2 Influential blogger accuses fund managers

He is a very successful private investor with a background in mathematics and finance and writes an influential blog. Following new accounting practices, he wrote a blog accusing fund managers for shifting government bonds under the shield of hold-to-maturity portfolio in order to maximize the base for the calculation of management fees. This reputation-damaging accusation has not reached wider public, which is a lucky coincidence because the blogger's conclusion was wrong. Our estimates have shown a negligible potential short-run effect of 1-2 basis points that may easily reverse after a market turnaround. It is a serious exaggeration to declare that the conflict of interest and negligence of fiduciary duty stood behind the move. Anyway, the problem is real. It is not about managers' motives. It is about comparability of funds' performances and about prices (unit values) at which units are bought and sold by members who enter and exit pension funds. Any departure from mark-to-market prices is not a problem as long as it happens in the short run and there is enough evidence that market prices are not representative (there are auditors and regulators who take care of this criteria). However, there is a problem if these criteria are not met and, especially, if criteria are applied differently by different funds. This leads to a situation where the same security is accounted for differently in different portfolios, which would reduce comparability across funds and increase the likelihood that members exit at overvalued or undervalued prices. The problem may become systemic if the practice continues to spread and, therefore, calls for a careful consideration. It should be made part of an effort to increase understanding of the funds' performance.

Costs and competition

The power of geometric progression makes small initial impacts of a few basis points critically important in the long run: costs will have a significant impact on future pensions regardless of the average net return in the long run. Perception of a multi-pillar system depends on assessment if the higher net return justifies the cost. Any problem to show the value added in terms of the long-run net result would sooner or later undermine the credibility of the scheme and motivate dismantling of its architecture despite of the fact that the benefits of the system may be present even if net returns are relatively moderate.

Costs of the system comprise fees paid to MPFMCs and the cost of the registry REGOS. Fund managers make their money out of exit fees only if members are moving their accounts between MPFs in time intervals shorter than 3 years. This is a minor source of revenue. It means that entry fees (0.8%) and management fees (0.65%) were reliable sources of funding for MPFMCs in the first decade of the reform.

In addition, the 1999 law envisaged a substantial success fee (see the above section Main elements of the reform), but this idea was abandoned in 2003. In return, the maximum management fee was raised from 0.8% to 1.2% in 2003. Since the regulator has the mandate to determine the management fee, both the regulator and the industry understood that the management fee would have to decline as assets under management grow.

A moderate cut of the management fee to 0.65% at present put MPFMCs as a group to a very comfortable position regarding revenues and profit (Table 6). Net profits represent 43.8% of subscribed capital. Data are for 2009, i.e. before the recent reduction of the management fee from 0.75% to 0.65%, which justifies the move. However, profit is not proportionally distributed among MPFMCs. Revenues are proportional to the number of members but cost distribution is more even due to a large share of fixed costs. It implies that the two biggest MPFMCs record profitability above industry average, while smaller MPFMCs probably recorded profitability ratios far below the industry average. In fact, according to the interview with the head of the

regulatory agency⁴, an additional downward push to management fees would mean that the smallest manager incurs a loss.

Table 6 Result of 4 MPFMCs, 2009

ITEM	HRK 000
Subscribed capital	327,844
Entry fee	31,939
Management fee	205,054
Exit fee	65
Profit	179,606
Tax	36,015
Profit after tax	143,591
ROE	43.8%
Memo: REGOS (central budget)*	94,080

* Based on the most recent 2011 budget plan.

Source: HANFA Annual Report 2009, www.hanfa.hr.

This problem cannot be neglected because of a small number of investment managers and other cost reductions that are about to come.

In particular, starting from 2011, MPFMCs practically lost revenue from entry fees. The central registry REGOS now charges MPFMCs HRK 2.5 per account per month, which is hardly covered by the entry fee. This is paradoxical because REGOS is funded from the central government budget in an amount of HRK 95 million (see the table above). This amount is unreasonably high because there is no system where the central registry costs almost a half of total costs of management and operations of the whole system at such significant volumes (close to 1.6 million retirement accounts) where economies of scale are certainly strong. Altogether REGOS will receive more than HRK 100 million in 2011 ($\approx 0.25\%$ of mid-year NAV of 4 MPFs). It is reasonable to assume that there is a hidden subsidy for public sector inefficiency behind this transfer.

The fact that the bulk of the amount is paid via the government budget should not confuse a reader. Members pay for it anyway, not via fees, but via taxes. Costs of REGOS, although funded from the central budget, should be counted as transition costs paid by the working population – future pensioners.

The problem of the REGOS's budget should be relatively easy to solve. The lesson it entails is that no significant element of the system's architecture (and significant cost generator) should be left out of the system, without proper control on the part of members who pay and/or their fiduciaries – MPFMCs and/or regulators.

The bigger problem of future reductions in management fees remains open. There are three ways to approach the problem in the future.

First, management fees may decline gradually in line with incentives to the smallest manager. This means that management fees fall in proportion to growth in NAV, subject to the constraint

⁴ A. Samodol, *Banka*, January 2011.

that the smallest manager should record reasonable ROE (of, say, 10%). In this way, the market structure would remain frozen and members would pay for freezing because the two biggest managers would remain in the position to reap the benefits in terms of ROE several times higher than ROE of the smallest MPFMC. But some competition would be preserved.

The second option is to go on with another round of more radical reductions in management fees. In that case, one or two smaller managers would record losses and perhaps exit the market. In that case, funds under their management would merge with funds managed by surviving managers. However, owners of two smaller MPFMCs belong to strong banking groups, so they may decide to keep the business going via constant recapitalizations in order to avoid any reputation risk associated with the closure of the business. Otherwise, the market will mature with 3 or only 2 managers. This is a risky strategy because competition would be even weaker than it is today.

The third option is to impose competition boosting measures in order to increase competition among managers for the benefit of future pensioners. The discussion of possible options lies beyond the scope of this study.

Investment strategies and development of capital markets

The trade-off between competition and security is the toughest trade-off reform designers have to face. Destructive competition can produce overly risky investment strategies. The lack of competition and too much control can make the system easy to supervise, but returns would hardly differ from returns on banks' deposits or government bonds. That would make the whole architecture obsolete in the eyes of stakeholders although the benefits of the multi-pillar system may still be present. Hence, there is no single recipe for success. Finding a proper balance between competition and security is more art than science.

At the onset of the reform, direct investment limits were imposed with a clear preference for security. At least 50% of assets had to be allocated to Croatian government bonds. Allocations allowed for equity and foreign assets were small (Table 3). The 2007 amendments introduced more liberal investment limits in line with the EU legislation, while the regulatory agency (HANFA) was empowered to regulate the details.

The following review of post-liberalization investment limits is not meant to be a comprehensive review of details. Extracted were investment rules that are most important for the ensuing discussion about investment strategies and capital market development:

Table 7 Investment limits according to the 2007-2009 by-laws – selected issues

ASSET CLASS	LIMIT		
	2007	2008	2009
Single issuer (including connected persons) limit	Up to 5% - whole period		
Single issue limit	Up to 10% - whole period		
Securities issued by companies listed in the first quotation of organized exchanges in Croatia	Up to 30% - whole period		
Securities issued by other listed companies in Croatia if market capitalization > HRK 750 million (≈€ 100 million) or > HRK 250 million (≈€ 33 million) if free float < 20%	Up to 15%	Thresholds change: market cap	Thresholds change: market cap

ASSET CLASS	LIMIT		
	2007	2008	2009
		(of free float) should exceed ≈ € 27 million	(of free float) should exceed ≈ € 13.5 million if free float < 10%
Stocks issued by issuers from EU and OECD countries		Market cap > € 300 million	
Croatian open-end private equity funds		Up to 1% - whole period	
Croatian closed-end real estate funds		Up to 2% - whole period	
Open-end investment funds if their assets under management are higher than € 13.5 million and if MPF's share is lower than 20%		Up to 5% - whole period	
Closed-end investment funds if their assets under management are higher than € 13.5 million and if MPF's share is lower than 20%		Up to 5% - whole period	
Explicit ban on investment in hedge funds		Active throughout the whole period	
Explicit ban on investment in convertible bonds	Yes		Abolished

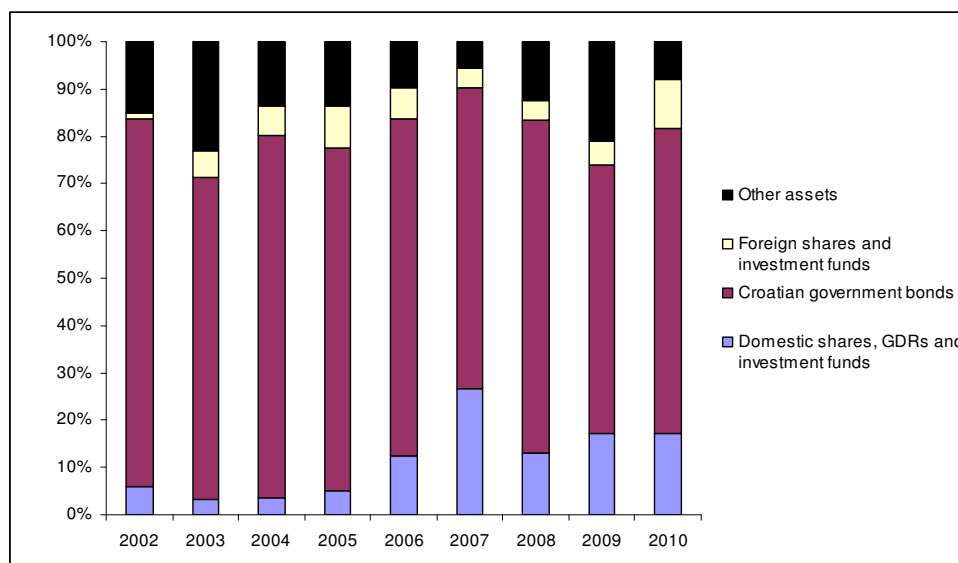
Source: www.hanfa.hr (Regulation).

After nine years of operations, investment limits seem to be relaxed enough to allow for different risk/return strategies. MPFs can invest up to 30% of total assets into stocks traded in organized exchanges in Croatia, EU and OECD countries, issued by issuers from these countries. This kind of exposure can be lifted via investment funds (additional 30%), which can be used for diversification (e.g. emerging markets and other asset classes). Some time ago that could have been an expensive strategy, but nowadays, with low-cost exchange traded funds present in the market, this exposure can be taken cheaply and efficiently.

Nevertheless, asset allocation did not change much during the first decade of the reform. As it has been shown, returns are very similar across funds. Croatian government bonds are still the preferred asset class. In the first five years of operations, their share was 70%-80%. The share declined towards 55%-70% starting from 2007. It was probably more due to the growth in equity prices than liberalization of investment limits because post-liberalization (end-2007) allocation was still in line with pre-liberalization limits, with Croatian government bonds representing 63.6% of total assets. Domestic shares, GDRs and investment funds represented 26.8% of total assets as of end-2007.

The crisis of 2008-09 led to another increase in government bond holdings, which was accompanied by a preference for other assets (deposits and cash mainly). The 2010 recovery for the first time prompted significant interest in foreign equities and investment funds (10.4%), meaning that fund managers tried to reap benefits from the recovery in more developed markets.

Figure 9 Mandatory pension funds' asset allocation 2002 – 2010, end-year data



Source: www.hanfa.hr, Statistika.

It remains an open issue whether the above shown allocations and similarities across funds are the consequence of the lack of competition or simply a reflection of optimal fund managers' behaviour. It is impossible to prove the counterfactual that net returns would be higher if competition was stronger (produced by either a larger number of funds or different regulation of investment limits). Nevertheless, finding a proper balance between competition (which should boost net returns) and security (proper account for risk) remains an open issue that should be discussed repeatedly.

An analysis of investment limits shows that the regulator probably did not play a major role in either preventing or boosting returns. Limits were sufficiently liberalized after 2007 and generally were not binding, although the FX exposure limit of 30% (Table 3) may have set the limit to foreign investment. Nevertheless, the strong preference for Croatian government bonds was probably not due to the regulator's influence, except at the very beginning of the reform. At later stages, home debt bias occurred for some other reasons.

The first possible explanation of home debt bias is the lack of knowledge. It takes time to learn investment. In the meantime, a local government bond is the most attractive investment option. While there may be some merit in this argument, the fund members' argument may be that they are not ready to pay for other people's schooling. This problem illustrates the key strategic decision policy makers have to make: develop domestic expertise or, like in Kosovo, (as well as some public funds in Bosnia and Herzegovina) engage reputable international managers.

The second possible explanation is tacit collusion. Everybody's (except perhaps for the smallest fund) interest is to be similar, not to have too much of competition. As collusion is implicit, arising naturally from the tendency to defend existing positions, government bonds are a natural coordination point. The relatively liquid and large market for government bonds makes them an asset class of spontaneous convergence of fund managers' preferences.

The third possible explanation is conflict of interest. MPFMCs are members of larger banking groups and banks make money on government bonds. Investing in government bonds for reason other than the interest of members would be a problematic breach of fiduciary duty, but it would

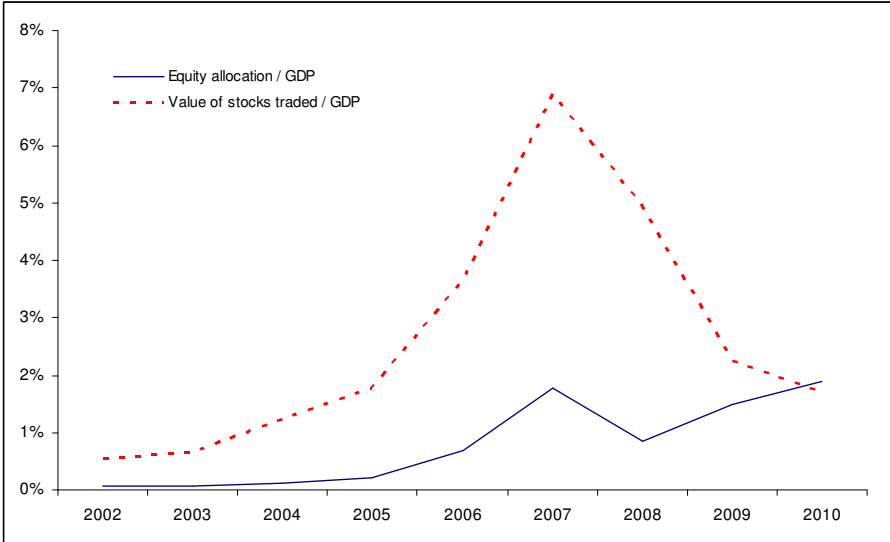
have another, even more problematic implication. If a multi-pillar pension reform provides access to a new and generous source of demand for bonds, it may actually undermine the government’s fiscal discipline and postpone the necessary fiscal adjustment. This effect should be weighed against potential benefits of creating a deeper market for domestic currency debt instruments.

The fourth possible explanation is that Croatian government bonds indeed represented one of the best investment options available in the last decade. This argument is not without merit, but again, a sophisticated performance measurement model would be required to evaluate this statement properly. There is no such model.

The fifth possible explanation is the lack of investment alternatives. As equity and corporate bond markets are shallow, government bond markets, which usually include international players, represent the most reasonable hub for large MPFs’ investments.

The relative size problem is illustrated in Figure 10. It shows MPFs’ domestic equity allocation i.e. amount MPFs invested (directly and indirectly) in domestic equity instruments⁵ (in % of GDP) and the value of stocks traded to GDP ratio.

Figure 10 MPF’s domestic equity allocation and equity market turnover as % of GDP



Sources: www.hanfa.hr, Statistika, own calculations, www.worldbank.org, Data.

Equity market trading volume of the Zagreb Stock Exchange is very low by international standards. Nevertheless MPFs’ equity allocation did not represent a significant share of GDP until 2006. Starting from 2006, the relative importance of MPFs’ equity allocation has begun to grow and by 2010, it became higher than the ratio of trading volume to GDP.

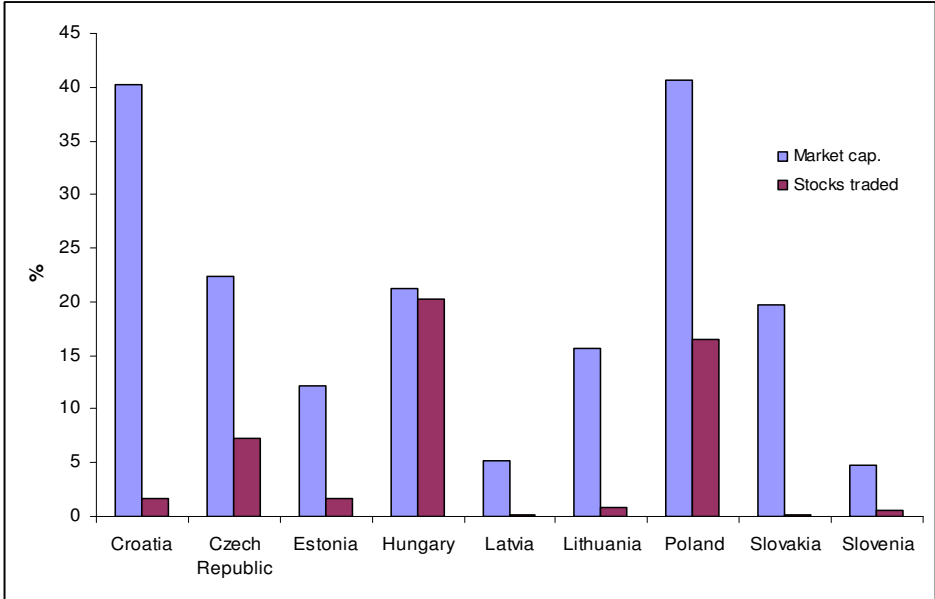
This illustrates that MPFs are far too big for the Croatian equity market. Croatian MPFs are already exposed to huge liquidity risk and they probably hold illiquid positions whose value is not evident from trading. MPFs have the firepower to move the market as the present equity allocation is still relatively low (17% of total assets as of end-2010), but there are probably no interesting investment stories in the Croatian equity market which is illiquid.

⁵ Like in Figure 9, domestic equity allocation includes investment funds as it is reasonable to assume that MPFs funds’ positions do not involve cash or bond funds.

Given the large size of MPFs relative to the size of domestic stock market, attractive shares should be issued by issuers large enough to have material impact on MPFs' assets and there should be enough free float. Not many stocks meet this condition. So MPFs have the potential to boost the domestic equity market, but they are neither company owners nor the government who can add to the supply of shares in the stock market. In the absence of better opportunities, MPFs diversify. Otherwise they may be caught in costly transactions, illiquid positions, conflicts of interest and risky shareholders' battles in a shallow market. There are no clear signs that investment limits imposed by regulation represent obstacle to diversification after 2007, but the role played by FX exposure limit should be investigated more thoroughly.⁶

The present situation is a consequence of capital market neglect. Capital market neglect is a perpetual error made by all Croatian governments which failed to develop financial markets in a systematic way. There were regulatory attempts based on the top-down approach. For example, in 2001, listing was made obligatory for large stock exchange companies. As a consequence, there are more than 300 stocks with a significant market capitalization listed in different quotations of the Zagreb Stock Exchange. However, most of these stocks are not traded. The ZSE is a market with a large number of issuers and capitalization, and a small trading volume and turnover. Figure 11 compares the ZSE with other main markets in CEE.

Figure 11 Equity volume traded and market capitalization to GDP in CEE, 2010



Source: www.worldbank.org (Data).

The lesson to be learned is that size matters in finance: large economies have relatively larger, deeper and more liquid markets. Countries with less than 5 million of inhabitants have relatively underdeveloped markets regardless of capitalization on average.

It remains uncertain how much governments can do to promote equity market development in small and open economies. The top-down regulatory approach (e.g. obligatory listings) has not worked in Croatia. What has not been tried in Croatia to the maximum extent possible was

⁶ Perhaps MPFs would have invested more in foreign capital market instruments if they were not constrained by provision that they can hold only 30% long FX position (as total liabilities are in domestic currency).

providing incentives for new listings through tax incentives and faster privatization designed in order to create diversified ownership structures with large free floats of shares.

A multi-pillar pension reform is an opportunity to create demand, but supply needs to be created in parallel. In the absence of a coordinated supply side – demand side policy effort, MPFs should diversify internationally for the benefit of their members. Kosovo is an extreme example where authorities made a sober decision to fully invest pension assets abroad as they reasonably concluded that the domestic capital market would lag behind financial potentials of pension funds. Pension funds in Lithuania and Estonia invested 80%-90% of their assets in international markets as early as 2004-05 (Kasek, 2008).

In conclusion, the authorities should realistically assess whether they want/can develop capital markets, and an equity market in particular, in a coordinated reform effort. The answer should not be yes in all circumstances because market development is costly and often evolves at a slow pace in comparison to the accumulation of assets under management in pension funds.

Even if the answer is yes, it does not necessarily require specific investment limits and constraints regarding international investment. Home bias is a well-documented phenomenon. For that reason, policy makers and regulators should equally worry about opportunities for diversification for the benefit of future pensioners, and about domestic financial markets.

Political economy of intergenerational relations

Nine years after the inception of the multi-pillar pension reform in Croatia, it seems that the reform process is at a critical juncture. It is not at all obvious whether the reform has delivered a better balancing adequacy and sustainability of the pension system. The large deficit of the PAYG component has remained so as to keep the replacement rate at socially acceptable levels. This prevents further increases in the second-pillar contribution rate. Net returns of MPFs are not convincing. The financial meltdown interrupted capital appreciation and allowed for a disturbing question: what if markets do not deliver in the future? What if the return on government bonds is the best return future pensioners can realistically expect to have? Different groups have different views on answers to these questions, depending on expected allocation of transition cost, as shown in Chapter I. Problems of distribution among different cohorts and groups as well as recognition of economic motives behind their political behaviour are problems of political economy.

Present discussions in Croatia reflect the reality of sobering times we live in. Public discussions have focused on four topics:

1. *Costs*: cutting costs is seen as a way to boost net returns at times when markets are not expected to deliver.
2. *Generation-specific sub-portfolios*: the idea is to manage more aggressive portfolios while members are young and then shift to more conservative bond-oriented portfolios as members get older.
3. *Fairness*: the fairness argument led to the 2010 amendments that allowed members who were 40-50 in 2002 to step back into PAYG upon retirement. More demands from PAYG are to be expected due to the political power of current pensioners.
4. *Reform neutrality*: some observers believe that the reform makes no sense if second pillar contributions are invested into government bonds. If transition costs are paid by the working population, it seems that tax payers are paying to themselves (vicious circle argument).

Interestingly, there are no discussions about the key problems of competition enhancement and hidden aspects of intergenerational distribution. We believe these are the key topics for the future of the Croatian pension reform.

Costs are certainly important but no cost reduction can benefit future pensioners more than a higher net return on investment. Even if capital markets do not deliver in Croatia, there will be places in the world where markets will perform. Professional, competent, competitive and independent managers should be able to find such market opportunities for the benefit of future Croatian pensioners and regulation should not stand in their way.

Failure to reform and cut the deficit in the PAYG system makes the problem of fund management even more important. Only better investment results may compensate for shifts of transition costs to future generations of pensioners. The first decade of reform in Croatia showed that the political power of pensioners is strong enough to shift i.e. roll over transition costs towards the future. Whilst this is not enough to dismantle the reform, this is the political fact no one can ignore in a democracy.

Keeping focus on fund performance and net returns is not the only important implication of this political fact. The key implication is that the multi-pillar pension reform, even if it does not deliver visible benefits in terms of high returns or smaller fiscal deficit, is the watershed that changes the political economy of intergenerational relations in the long run. In this respect, the multi-pillar pension reform should be understood as a method for long-run social changes that aims at affecting individual incentives, the way people think about intergenerational burdens and the way they think about saving in an aging society. How can a pension reform deliver in this respect?

Assume the worst case scenario: capital markets won't deliver. In this case government bonds represent the best risk/return combination available. At the same time, the political power of current pensioners rolls transition costs forward. This is the situation illustrated in Figure 6, Chapter I: PAYG evolves along the red line, transition costs (a vertical difference between the red line and the low blue line) get bigger, the deficit is funded by bond issues to pension funds and future pensioners pay for debt service so their long-run p/w line shifts to the right. Current pensioners do not vote for the reform because transition costs are too big and future pensioners do not vote because the benefits are too distant; they hope they'll be able to roll the cost within an unreformed PAYG, too. From the cash flow perspective, this is a vicious circle. It seems that the reform does not make sense in case the government bonds represent the best investment case. If the reform has started already, it calls for re-examination, if not abolishment of the second pillar. However, that is wrong. A multi-pillar reform makes sense even under such conditions. This is so because a pension reform is not about the cash flow. It is about changing behaviour and incentives.

A society strained by intergenerational economic relations faces a coordination problem. Generational short-termism prevents a collectively rational solution that should be reflected in stopping the pension-Ponzi scheme. So, the pension reform in this case is about changing incentives and lengthening individual views on life over several decades. It is about changing the subjective discount factors people apply when making decisions about the future.

Lots of values produced by financial arrangements emerge due to improvements in risk management. In the case of an unreformed PAYG system, the risk of failure increases as time passes. Pensioners of today have a much higher probability to extract value out of the PAYG system than pensioners of tomorrow, because contributions and explicit public debt are still relatively low today. Workers of today – pensioners of tomorrow do not have to be economists to understand that both contributions and public debt will probably be higher tomorrow as pension system deficit rolls on. Tomorrow will be a riskier environment. In this case the decision

to rely on the PAYG system only implies relying on political mechanism. And there are limits to political allocation. For example, future voters-pensioners may decide to raise contributions so high that younger workers (their children today) would flee the country or shift activity to the unofficial sector. If children decide to pay higher contributions anyway, maybe they won't be able to help their parents. Or they'll be poorer than their parents.

Having an alternative "automatic" mechanism of savings for old age is a wise option from the risk management perspective. It makes future choices easier. It makes current workers – future pensioners less worried about how much burden they will shift to their children via PAYG. Even if investment is heavily directed towards government bonds, it makes implicit public debt explicit, which raises awareness of the long-run sustainability problem. Finally, having some funds available in their own retirement accounts makes people less dependent upon decisions of future politicians and leaders.

So, the pension system reform is about changing views about the future, changing incentives to save and changing the culture of relying on government welfare services when their provision becomes counterproductive and growth-restraining due to population aging. This purpose extends beyond the issues of costs and returns.

III Summary of the key policy and regulatory issues

After nine years of operations of the multi-pillar pension system in Croatia, six critical issues emerged that may be of great importance for other countries contemplating or executing the pension reform. The following list of critical issues is also reflected in the Appendix where specific questions for discussion are added to each of the following issues:

- Political economy of intergenerational relations: how to find a balance between adequacy and sustainability

The unreformed PAYG system cannot solve the trade-off between sustainability and adequacy on a stand-alone basis if the population is aging and/or if the ratio of employed to pensioners is expected to decline for any other reason. So-called parametric reforms in the PAYG system should be directed towards promotion of longer work and later retirement. However, the final solution involves a fundamental change which promotes individual responsibility for retirement income. A multi-pillar reform has the potential to bring that kind of change.

The Croatian experience shows that it is almost never too early to start a comprehensive pension system reform. Reforms usually start too late, when contribution rates are high and the employed to pensioners ratio and replacement rates are low. In such an environment, reforms progress slowly because short-term interests prevail and current pensioners obtain a strong political power. Deficit reduction is slow, usually slower than designers expected at the onset of the reform.

The lesson to be learned is that it is easier if reforms are undertaken early enough. Croatia, Serbia, Ukraine and Georgia already have very old populations, but other countries, with the exception of Albania, Azerbaijan and Kosovo, need to reform as well on the grounds of the aging argument. Even in countries without a pressing aging problem other reasons such as changing economic incentives, reducing distortions and overcoming weak institutions may lead authorities towards a path of pension reform.

- Contribution rates: how to prevent their negative effect on competitiveness

The 13 countries covered by the study have higher pension contributions than OECD countries on average. Such a high direct tax on labour at the very low level of economic development may produce serious distortions such as tax evasion, flourishing underground economy and income inequality. Something should be done about it. This may add to the motives for reform.

Croatia substantially reduced pension contributions in the pre-reform period. The rate was reduced from 27% in 1995 to 20% in the first full year of operation of mandatory pension funds – 2003. This reduction probably helped diminish the underground economy but it also contributed to a widening fiscal deficit of the pension system prior to the reform.

The lesson to be learned is that reductions in contribution rates should be listed under priorities of the reform, but steps should be taken cautiously in order not to aggravate the deficit problem.

- Transparent performance measurement: how to reduce vulnerability to populism and ad hoc policy reactions

The failure to provide objective performance measurement of fund managers opened doors to ad hoc discussions about performance. Most discussions took place around the market cycle bottom, usually pointing out that the second pillar based on professional investment managers is too expensive to produce attractive net returns in the long run.

The lesson to be learned is that performance measurement is a critical element of the reform. It was neglected by both the regulator and the industry in the first decade of reform in Croatia. But credibility of the scheme rests upon understanding of these issues by members, policy makers, opinion makers and other stakeholders. A failure to present and promote understanding of transparent performance measurements raises the danger of ad hoc conclusions, measures and policy mistakes.

- Competition and security: how to promote competition in order to maximize long-run net returns at acceptable level of risk

There is a small number of large investment managers in the second pillar in Croatia. Mandatory pension funds followed similar investment strategies and recorded very similar returns. No pressure by members moving accounts among funds has emerged after nine years of the reform. It is not possible to prove the counterfactual that performance might have been better with more competition, but the question remains unanswered.

The lesson to be learned is that the competition problem will probably arise in any small and open economy unless designers of the reform take this explicitly into account and tackle the problem. However, designers should keep in mind that competition may be destructive, so a proper balance between competition and security should be found.

Home debt bias is a particular puzzle in the Croatian case. Regulation was probably not the major reason for large holdings of domestic government bonds because liberalization of investment limits in 2007 did not lead to substantial changes in portfolio allocations. Still the impact of 30% limit on FX exposure needs to be assessed properly. Besides it there are five

candidate explanations: lack of knowledge, tacit collusion, conflict of interest, good investment, and lack of investment alternatives. In any case, reform designers should not see mandatory pension funds primarily as vehicles for market development and deficit funding. They should primarily care about the benefits of members and fiduciary duties.

- Cost control: how to internalize and supervise all costs relevant for operations of the pension system

Leaving significant cost generators outside the system creates a problem. The central registry REGOS is funded from the central budget. On top of it REGOS introduced a lump-sum fee per member, which effectively takes away the entry fee from the fund management companies. REGOS's total cost is extremely high; it has two sources of funding and is not accountable to members or their fiduciaries.

The regulator successfully decreased management fees in line with growing assets under management. However, low profitability of the smallest asset manager represents an obstacle to more aggressive reduction. Further cuts in fees may drive the fourth manager from the market. So, the regulator is facing three options: (1) continue with moderate reductions as in the past; (2) reduce management fees more aggressively in order to promote market consolidation, which would probably result in 2 or 3 asset managers; (3) promote competition.

The lesson to be learned is that: (1) all cost generators should be monitored by members and/or their fiduciaries – managers and regulators, (2) distribution of market shares of asset managers may represent an obstacle for more aggressive cuts in management fees; so this problem should be viewed from both cost and competition perspective.

- Development of capital markets: how to overcome the size problem

It is a well established fact that size matters in finance. Transition countries with less than 5 million inhabitants are generally not successful in developing deep and liquid equity markets. For that reason, pension funds in countries like Estonia, Lithuania and Kosovo have invested in international markets from the very beginning of the multi-pillar pension reform. Croatia followed another route: a limit on foreign investment was imposed at the outset.

The capital market has not developed more than might be expected if second-pillar pension funds were not present. Lack of coordinated policy efforts to promote equity finance is the main reason behind this failure. Lack of well-thought and coordinated privatization efforts aiming at creating diversified ownership structures with significant free float and absent tax incentives contributed to the outcome. The outcome is that mandatory pension funds are now too big for the market. Modest equity allocations that are below 20% of total assets are larger than annual trading volumes on the Zagreb Stock Exchange. Any deeper involvement in the domestic equity market would imply holding illiquid positions and getting engaged in situations burdened by conflict of interest and tedious shareholder battles.

The lesson to be learned is that designers of the reform should work on capital market development in parallel with a multi-pillar pension reform. Even if it is reasonable to expect that the market would develop, limits on investment abroad should not be set too tight as it is reasonable to expect that home bias will occur anyway. International diversification is something that may benefit future pensioners beyond any positive effect of domestic market development.

Appendix A: Chronology of the main events

- 1995/96: discussions, involvement of IFIs, notably the World Bank, beginning of preparations
- 1996 – 2003: gradual decrease of pension contribution from 27% to 20%; initially divided between employee and employer 50:50, finally borne entirely by employee
- 1998: new Law on Pension Insurance, parametric PAYG reform
- 1999: Law on Mandatory and Voluntary Pension Funds enacted
- 1999: postponement of the reform; regulator and central registry not ready
- 2001: commencement of the marketing campaign, members begin to choose mandatory pension funds
- 2002: first payments of contributions in April, funds begin investing
- 2003: Amendments to the Law on Mandatory and Voluntary Pension Funds; elimination of success fee, decrease of exit fee, increase of maximum management fee
- 2004: pension supplement becomes part of the pension in the PAYG system
- 2005: personal subsidy for payments to VPFs cut from maximum HRK 1,250 to HRK 750 (\approx € 100)
- 2007: Amendments to the Law on Mandatory and Voluntary Pension Funds; liberalization of investment limits, compliance with EU regulation
- 2007: second pension supplement in the PAYG system, replacement rate remains above 40%, pension supplement not included in the basic pension from the second pillar
- 2009: unit values drop significantly due to the financial meltdown, first retirees from combined first and second pillar receive substantially lower pensions than in the PAYG system
- 2009: Prime minister declares pension reform to be a failure but reform remains intact due to strong resistance of the public and the media
- 2010: Next round of parametric reforms: gradual increase in the statutory retirement age for women
- 2010: NAV of mandatory pension funds exceeds 10% of GDP
- 2010: tax incentives for employers' payments to VPFs on behalf of workers
- 2011: Costs of the multi-pillar system, and of the second pillar in particular, become a matter of public debate
- 2011: Central registry introduces a charge per account effectively taking revenues from entry fees away from mandatory pension fund management companies
- 2011: Amendments to the Law on Mandatory and Voluntary Pension Funds allowing members who were between 40 and 50 in 2002 to retreat back to PAYG

Appendix B: Questions for discussion

- Political economy of intergenerational relations: how to find a balance between adequacy and sustainability

Has Croatia initiated pension reform too late? What are the main reasons for the political power of pensioners in Croatia: the late inception of the reform, catholic culture, socialist past, belonging to the European welfare state tradition, level of development, young average age of pensioners (around 55), lack of financial literacy or some other reasons? What would be the main reasons for initiating a pension reform in a country that has not yet faced an aging problem?

- Contribution rates: how to prevent their negative effect on competitiveness

Has Croatia reduced the contribution rate prematurely (1996 – 2003)? How to make a tough choice: lower the contribution rate and allow the deficit to grow, or cut the deficit by raising the contribution rate? Is it realistic to expect reduction in the underground economy and increases in economic incentives and competitiveness if contribution rates are cut across the SEE and Eurasian region (where rates stand higher than in OECD countries on average)?

- Transparent performance measurement: how to reduce vulnerability to populism and ad hoc policy reactions

Do you agree that both regulators and the industry failed to provide objective measurements of performance of pension funds Croatia? What might be the arguments for NOT promoting transparent performance measurements; financial illiteracy? What would be the best methods for promoting performance measurement (industry, regulator)?

- Competition and security: how to promote competition in order to maximize long-run net returns at acceptable level of risk

Do asset managers compete with each other in Croatia (try to describe intensity)? Is there room to increase competition without increasing risk? Is competition among managers desirable at all? How do you explain the main reasons for home debt bias: (a) lack of knowledge, (b) tacit collusion, (c) conflict of interest, (d) good investment, (e) lack of investment alternatives? What would be an effective incentive for members to begin shifting their accounts between funds? Is it to be expected in the near future? Would it promote or hinder competition?

- Cost control: how to internalize and supervise all costs relevant for operations of the pension system

Should REGOS financing continue to be double sourced or should it be changed? Who should supervise REGOS's budget? Should the industry have a say in this? Which of the following three strategies should the regulator pursue regarding future changes in management fees: (a) continue with the existing practice; (b) cut the fee and consolidate the market with 2 or 3 asset managers; (c) change the concept and strongly promote competition among managers? If (c), elaborate possible measures.

- Development of capital markets: how to overcome the size problem

Is there some critical threshold (in terms of the size of the economy) which effectively limits the possibility to develop a significant capital market? How can authorities know when they are pushing pension funds too far into domestic investment and hurting future pensioners in the long run by hindering optimal diversification? What measures may be taken to develop capital (particularly equity) markets before pension funds become too big to invest?

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About Arhivanalitika

Arhivanalitika is a consulting company based in Zagreb, founded in 2003, owned and managed by Velimir Šonje, MSc. Šonje worked at the Institute of Economics in Zagreb (1990-1995), the Croatian National Bank (1995-2000) as Executive Director of the Research and Statistics Area, and in Raiffeisen Bank Austria d.d. Zagreb as a Board Member (2000-2003). At the latter time he was President of the Supervisory Board of the Raiffeisen Obligatory Pension Fund Management Company. In addition to his numerous assignments and consulting projects in the fields of macroeconomics and finance, he worked as a short-term consultant to the World Bank and evaluated third-pillar voluntary pension funds in Ukraine in 2007 and 2008. In 2009, he was commissioned by the Croatian Association of Obligatory Pension Fund Management Companies and Pension Insurance Companies to conduct a study entitled *The Second Pillar of Pension Insurance: the True State and Potential Improvements*.

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