

# Impact of the financial crisis on the pension system reform. Lessons from Central and Eastern European countries

## Miloş Laura Raisa

“Eftimie Murgu” University Resita  
Faculty of Economic and Administrative Sciences, Department of Economics  
P-ta T.Vuia, nr.1-4  
Resita, 320085  
Romania  
e-mail: [miloslaura@yahoo.com](mailto:miloslaura@yahoo.com)

## Miloş Marius Cristian

“Eftimie Murgu” University Resita  
Faculty of Economic and Administrative Sciences, Department of Economics  
P-ta T.Vuia, nr.1-4  
Resita, 320085  
Romania  
e-mail: [mariuscmilos@yahoo.com](mailto:mariuscmilos@yahoo.com)

### **Abstract**

*In this paper, the authors analyze the influence of the international financial crisis on the current architecture of the CEE pension systems and their further reforms. In many of the CEE countries, which have adopted/developed later the second pillar, the financial crisis has raised questions in what concerns the benefit of moving to a mixed pension system, in comparison with the former one, which relied exclusively on public pay-as-you-go schemes. Some of them have even taken some concrete actions in this respect. The authors question not only about the short-term negative effects of the financial crisis, which are pretty significant in comparison with the general expectations, but also about longer run effects, on the continuing deteriorating finances of these pension systems, in the context of the ageing of population and unsustainable pension schemes. These long run effects will basically be the result of the decline in the earnings of population and employment. Not at least, there are discussed also some measures meant to enhance the further pension system reform and to improve the performance of the private pension funds.*

*Keywords: financial crisis, pension system, reform, pillars, CEE countries*

*JEL codes: G01, G23, H55*

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### **1. Introduction**

As a consequence of the financial crisis, the very fragile pension reform has been subject of debate in the new member states of European Union, given their deep recession and registered fiscal deficits. The main benefits that a functional reformed pension system was promising to bring are exactly the reasons why this reform is under critique nowadays (instead of a reduced public burden we have a public debt that reaches worrying levels, instead of attractive returns, translated into higher benefits for the pensioners, we have lower returns due to the collapse of financial markets and the economic conditions in general). The paper makes an analysis of the influence, on short and long-run horizon, of the international financial crisis on the future reform of the pension system, bringing arguments for and against the measures taken by national authorities or outlining some concrete actions not yet taken.

The paper is organized as follows. Section 2 makes an overview of the current architecture of the pension systems in ten CEE countries, members of the European Union. Section 3 describes the manner in which the financial crisis exerts negative influence on the pension systems from CEE countries and which are the determinants for the intensity of this bad influence. Section 4 makes a short review of the pension policy responses to the financial crisis in the CEE countries. Section 5 outlines the long run effects of the financial crisis on the pension reform and draws some final conclusions about the lessons need to be learned from this financial crisis.

## **2. An overview on the current architecture of the pension systems in some CEE countries, member of the European Union**

Beginning with the '90, the majority of the CEE countries have initiated reforms of their pension systems, in close connection with the ones realized by the old member states of European Union (EU-15 countries), being encouraged in their endeavor also by the demographic transition. The outcome of their efforts has been materialized in a sharp reduction of the volume of the public pensions and/or reforms in the architecture of their pension systems (by encouraging supplementary pension schemes (occupational and personal) to alleviate public budget and to manage the increasing old-age dependency ratio) (Milos and Milos, 2011). The reforms have been diverse, depending on the country specificities and priorities, on the development of the domestic financial markets and on the legislative framework of each country.

As far as concerns the first pillar (the public pension system), the following changes have been made: the retirement age has been increased, the volume of the anticipated retirement requests has been reduced, the pension methodology has been improved in order to correlate better the contributions with the benefits, using some indexation rules. In the distributive first pillar, most countries (with the exception of Poland and Latvia) have chosen a defined benefit (DB) system, as was typical of the old pension systems.

In the same time, the second pillar was introduced (fully-funded privately-managed pension systems), based on individual accounts. In comparison with the traditional system, the main characteristic of this pillar is that the pension is determined by the return earned on the invested funds, funds that can be invested either both on the domestic financial market and on the international one. According to the World Bank, this model of pension reform is meant to diversify retirement income and foster in the same time the domestic capital market development.

While the third pillar is currently less developed (with the exception of Czech Republic and Slovenia) the second pillar, based on individual accounts and on defined contribution system, is becoming every day more important, increasing the role of private retirement provisions. Among the CEE countries, the 2<sup>nd</sup> pillar has a variety of rules concerning contributions, eligibility of individuals and possible pension schemes. The common feature is their objective of supplementing the public pension, allowing a decent income after retirement.

An overview of the current architecture of the pension systems in the considered CEE countries can be seen below (Table 1). We can notice that continue increases in longevity will ensure that the old-age dependency ratio (which is calculated as ratio between number of elderly people and those of working age) will rose significantly until 2050 (doubling or more its size), according to the predictions made by Eurostat. The worst case scenarios are seen in the case of Slovakia and Poland, where the ratio almost triples its size by the end of 2050.

Since in most of the considered countries, funded individual accounts are only a small part of the overall pension, which is mainly provided by the state, alongside with social pensions or minimum pension guarantees, the negative demographic evolution puts a supplementary pressure on the pension reform. Therefore, Schwarz et al. (2009) points out the necessity of the reform despite the severity of the financial crisis, considering that it “pales in comparison to the demographic crisis which the region will face. [...] With the aging of the population, people will increasingly have to save additional money for their own retirement if they want more generous benefits”. Jarrett (2011) has argued that “trying to solve the problem of public finance sustainability by radically shrinking the second tier of the pension system has obvious costs in terms of poverty among old-age pensioners”.

Table 1: Characteristics of the pension systems in some CEE countries

	<b>Retirement Age</b>		<b>Old-age dependency ratio (%)</b>		<b>First pillar</b> <i>Public Universal coverage, redistributive</i>	<b>Second pillar</b> <i>DC one, totally financed Privately managed pension funds</i>	<b>Third pillar</b>
	W	M	2010	2050			
BG	60	63	25,3	55,4	PAYG, Reformed since 1995	From 2002; mandatory for those under 42 years Occupational pension for those jobs with high level of risk	<i>DC, totally financed Voluntary</i>
CZ	60	63	21,8	54,8	PAYG, Reformed since 1989	No 2 <sup>nd</sup> Pillar, 3 <sup>rd</sup> Pillar very developed	
HU	62	62	24,2	50,8	PAYG, Reformed at the middle of 1990	From 1998; mandatory for public sector and freelancers new entered on the labor market with ages < 35 years old; optional for the others.	
ES	61	63	24,4	58,7	PAYG, Reformed since 1999, defined benefit	From 2002; mandatory for public sector and freelancers under 20 years and for newcomers in the working field; voluntary for employees between 20 and 60 years old	
LV	62	62	25,2	51,2	PAYG, Reformed since 1991, DC	From 2001; mandatory for public sector and freelancers under 30 years, optional for the rest	
LI	60	62,6	23,2	51,1	PAYG, Reformed since 1995	From 2004; voluntary for public sector and freelancers	
PL	60	65	19	55,7	PAYG, Reformed since 1999, DC	From 1999; Mandatory for public and private sector and freelancers under 30 years; optional for people between 31 and 50 years old; Occupational pension schemes	
RO	58	63	21,3	54	PAYG, Reformed since 2007	From 2008; mandatory for public and private sector, under 35 years; optional for persons between 35 and 45 years old.	
SK	61	63	16,9	55,5	PAYG, Reformed since 2005	From 2005; mandatory for public and private sector, entered in the working field between 1 july 2006-31 december 2007; optional for the newcomers in the working field	
SL	61	63	23,9	59,4	PAYG, Reformed since 2000	From 1992; Occupational schemes, mandatory for public sector, banking sector and dangerous condition sector, voluntary for the rest	

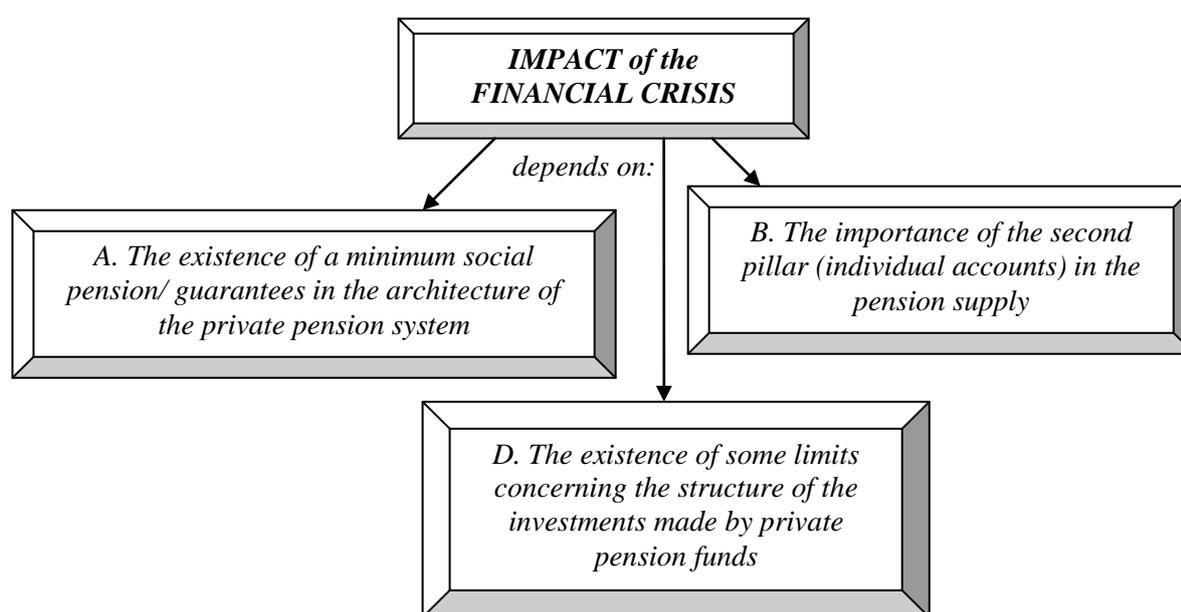
Note: BG-Bulgaria; CZ-Czech Republic; HU-Hungary; ES-Estonia; LV-Latvia; LI-Lithuania; PL-Poland; RO-Romania; SK-Slovakia; SL- Slovenia

Source: realized by authors, data provided by ISSA, Eurostat

### 3. Channels through which the financial crisis exerts negative influence on the pension system

The financial crisis which occurred in the second half of 2008 generated worries among the beneficiaries of the pension systems. This was a normal reaction, taking into consideration the fact that, beginning with 1998 (when the first CEE country, Hungary, implemented the 2<sup>nd</sup> pillar), millions of people have directed a part of their social security contributions towards private pension funds, which have invested their savings on financial markets, deeply affected by the crisis. Without any doubt though, there were individuals more affected by the crisis than others. This was probably caused by the following three issues: a) whether in the country of reference was implemented a minimum social pension or there were guarantees in the architecture of the private pension system; b) the importance of the second pillar in the economy; c) the existence of some limits concerning the structure of the investments made by pension funds (Figure 1, Table 2).

Figure 1: Factors that intensify the impact of the financial crisis on the pension systems



Source: realized by authors

As far as concerns the first factor of influence, all the CEE considered countries have established a minimum social pension, but there are differences regarding the assurance of a performance guarantee in the private pension provision. Some of the countries have established:

- *minimum relative guarantees*, computed in function of the performance rates obtained by different type of pension funds (conservative, balanced and growth funds) in a certain period, usually two or three years (Slovakia, Romania, Bulgaria, Poland) or in function of the interest rate for long-term state bonds (Slovenia);
- *minimum absolute guarantees*, which are designed to guarantee the net contributions of participants (Romania, Slovakia) or to ensure a positive performance rate and in case of failure, covering from the reserve fund of each pension fund (Czech republic- for the third pillar);
- *no performance guarantees* (Estonia, Hungary, Latvia, Lithuania).

Regarding the importance of the second pillar in the architecture of the pension system, it can be assumed that those countries which very developed second pillars would be harder hit by the financial crisis than the other ones, which are not depending on the dynamics of the financial markets. We can see that, as far as concerns the CEE countries, the second pillar market is at the beginning, varying in its importance from 0,49 % of GDP in Romania to 14,11 % of GDP in Poland (the biggest market in the region, counting also on one of the biggest contribution rates, of 7,3 % from the gross income).

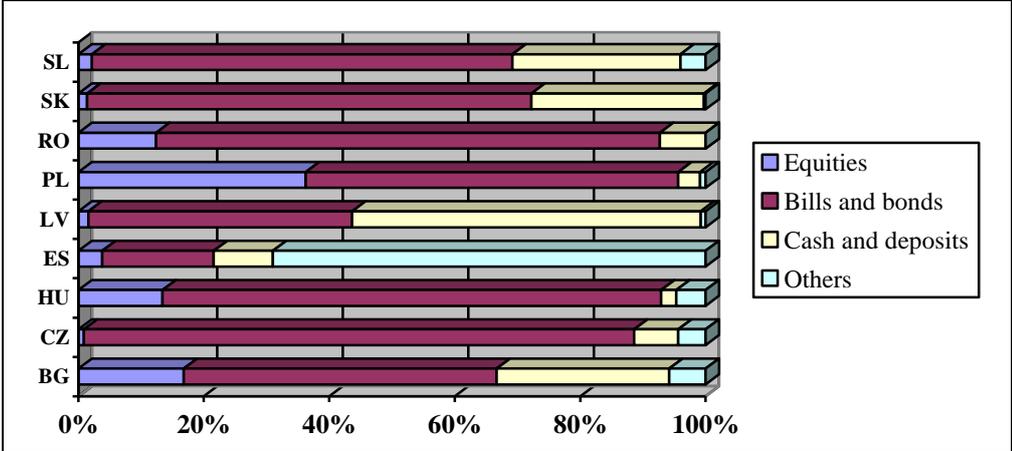
Table 2: A comparative analysis of the factors which influence on the intensity of the financial crisis

Country	A. The existence of a minimum social pension /guarantees in the private pension system	B. The importance of the second pillar		C. The existence of some limits concerning the structure of the investment made by private pension funds
		Contribution from the gross income to the 2 <sup>nd</sup> Pillar	Size of the 2 <sup>nd</sup> Pillar (% of GDP)	
BG	Yes/ no performance guarantees	5 %	3,97 %	≥ 50 % in state bonds or other instruments guaranteed by the state; ≤ 20 % shares ≤ 30 % bonds ≤ 20 % abroad
CZ	Yes/ positive performance guaranteed	No 2 <sup>nd</sup> pillar yet; 3 % from 2013	5,5 % (3 <sup>rd</sup> Pillar)	No limits for investing in bonds or shares ≤ 70 % bonds of a single OECD state ≤ 10 % real estate, deposits, titles of a single issuer
HU	Yes/ no minimum performance guaranteed	8 % (voluntary 2 % more)	10,34 %	≤ 50 % in investment funds ≤ 30 % bonds ≤ 25 % mortgage bonds ≤ 10 % estate funds ≤ 5 % hedge funds
ES	Yes/ no minimum relative performance guaranteed	2 %	6,88 %	0 % shares for the conservative funds ≤ 25 % shares for the balanced risk funds ≤ 50 % shares for the growth funds ≤ 40 % real estate ≤ 40 % fixed assets
LV	Yes/ no minimum performance guarantees	2 % , 4 % in 2011, 6 % in 2012	5,36 %	≤ 30 % shares for high risk pension schemes ≤ 15 % shares for medium risk pension schemes ≤ 0 % shares, 100 % fixed income instruments for low risk pension schemes
LI	Yes/ no minimum performance guarantees	5,5 %	3,55 %	For the balanced portfolio: ≤ 20 % real estate, no maximum limit for shares For the conservative portfolios ≤ 30 % shares ≤ 0 % shares
PL	Yes/ minimum relative performance guaranteed	7,3 %	14,11 %	≤ 40 % mortgage, municipal or corporate bonds ≤ 40 % shares ≤ 20 % deposits
RO	Yes/ minimum relative performance guaranteed + absolute guarantee	2,5 % 2010, 3 % in 2011, 6 % in 2016 (from 10,5 %)	0,49 %	≤ 20 % money market instruments ≤ 70 % state bonds ≤ 50 % instruments issued by local authorities ≤ 50 % shares ≤ 5 % corporate bonds ≤ 5 % mutual funds
SK	Yes/ minimum relative performance guaranteed	9 %	4,58 %	≤ 30 % in Slovak instruments ≤ 0 % shares –conservative fund ≤ 50 % shares – balanced fund ≤ 80 % shares – growth fund
SL	Yes/minimum relative performance guaranteed	No 2 <sup>nd</sup> Pillar yet; DC mandatory occupational pensions for some sectors	3,15 %	≤ 30 % in shares and mutual funds ≤ 30 % deposits ≤ 10 % real estate ≤ 3 % cash

Source: realized by authors, data supplied by ISSA, web pages of national commissions of surveillance of the private pension systems

On the other hand, it is also logical to presume that the existence of some limits in the structure of the portfolios chosen by pension funds may determine a different influence of the financial crisis on the pension benefits. From the table above (Table 2), we can see that there is no unique set of rules regarding the structure of the investment made by private pension funds, the pension schemes vary across countries, alongside with the proportion from wage dedicated to the funded scheme. The greatest freedom in investing in high-risk financial instruments is experienced by pension funds in Slovakia (where pension funds can invest up to 80 % of their assets in shares if they are a growth fund) and the most limited investment is applied to the pension funds from Bulgaria, which are allowed to invest only up to 20 % of their assets in shares. Regardless the legislation, the practice shows that the situation is reversed in what concerns the asset allocation of the pension funds (for instance, in Slovakia, where we have the greatest freedom of investing in shares, this instruments only account for 1,4 % of portfolio, one of the lowest registered (Figure 2)).

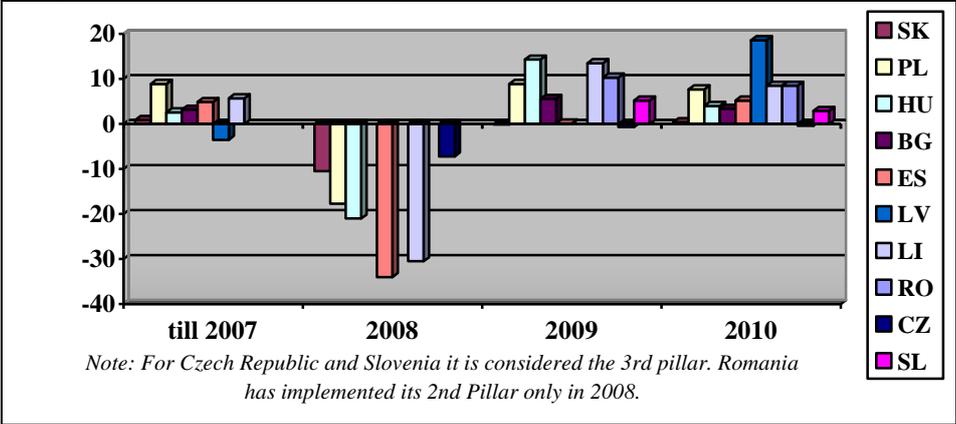
Figure 2: Pension funds' asset allocation for investment in CEE countries (2010)



Source: realized by authors, data provided by OECD Global pension statistics

When a financial crisis occurs, it often produces a devaluation of the accumulated funds. Though, the extent of the devaluation is depending strongly on the pension scheme which private pension funds may apply. A growth fund, with an aggressive investment policy, which rather places their assets in shares than in bonds, is likely to be more affected by a financial crisis. In all CEE countries, 2008 was a year of adverse capital market performance, translated into negative real returns for the private pension funds. Hence the impact of the crisis on pension funds was felt different in the CEE countries, from a loss of more than 30 % in Estonia to a loss of only 10,5 % in Slovakia (Figure 3). The lesson learned from this was that return and risk remain a trade-off and wishing for better protection against high volatility of capital markets will invariably lower returns in the longer run. The following years have brought though a recovery, not reaching yet though the pre-crisis level.

Figure 3: Real rate of return of pension funds before/after the financial crisis



Note: For Czech Republic and Slovenia it is considered the 3rd pillar. Romania has implemented its 2nd Pillar only in 2008.

Source: realized by authors, data provided by OECD Global pension statistics

The decline in the rate of returns was more difficult for those individuals at retirement age. Fortunately, in the CEE countries, the second pillar was introduced only recently, and excluded older employees, hence very few individuals are currently retiring with benefits from the private pension funds. If we consider the oldest second pillar countries in the region (Hungary, followed by Poland), only new entrants in the working field were obliged to join the second pillar, for the others it was voluntary. Moreover, due to the financial crisis, Hungary has allowed the return of those individuals older than 51 in 2008 to the public system, resulting even fewer employees in this situation.

Regardless the magnitude of the influence of the financial crisis upon the pension systems in some countries, it remains clear that it had a negative impact on both pillars of the pension systems and on the future planned reforms. Given the volatile nature of the investments made by private pension funds, the second pillar was more affected given the financial risk at which financial markets are exposed. Although less affected, the first pillar (pay-as-you-go pensions) was also negatively influenced by the financial crisis, once with the reduction of the aggregate national income, since it relies on the principle that the current generation of employees pay for the current generation of pensioners. The national income experienced a dramatic fall in almost every CEE country, which lasted till 2011. This had negative effects on the pension benefit, lowering its level in some states or remaining stable in others with the cost of increasing the fiscal deficit (Campeanu, 2011).

#### **4. Pension policy responses to the financial crisis in the CEE countries**

In many of the European Union countries, especially in the CEE countries, which have adopted/developed later the second pillar, the financial crisis has raised questions in what concerns the benefit of moving to a mixed pension system, in comparison with the former one, which relied exclusively on public pay-as-you-go schemes.

Some of them have even taken some concrete actions in this respect. First of all, some of them have modified the overall contribution rate. Some countries increased it in order to alleviate the fiscal deficit (e.g. Romania), others have reduced it, with the aim of fostering the employment and incomes (e.g. Bulgaria). Secondly they have frozen or adjusted differently in comparison with the prior calendar the second pillar contribution rate (e.g. Estonia, Lithuania, Latvia, Romania, Estonia). Moreover, more radical measures have been taken by some CEE countries, allowing individuals to switch back to the old system, getting out of the second Pillar (e.g. Hungary, Slovakia) or making the second pillar voluntary to new entrants on the labor market (e.g. Slovakia). Finally, they have taken some measures in order to prevent early retirement (e.g. Hungary, Poland, Latvia) or they increase the retirement age (e.g. Hungary, Romania, Poland). A more detailed view of all these measures is described below (Table 3).

We believe that all these actions are short-term solutions taken by the authorities in order to alleviate the budget tensions, but the reform of the pension system must be continued. The architecture of the pension systems is thought on a long run basis, though taking some short term concrete actions to avoid immediate circumstances can have negative long-term effects on the system. While the financial crisis is decreasing in its intensity, the current problems of adequacy and sustainability of the pension systems remain.

Like Jarrett (2011) pointed out that trying to solve the problem of public finance sustainability by radically shrinking the second tier of the pension system has obvious costs in terms of poverty among old-age pensioners. Their benefits will be considerably lower than the ones of working age, not mentioning that their confidence in the multi-pillar system would be strongly affected.

In order to prevent a reversal of the reforms made so far, an important step that needs to be taken by the authorities would be to restore the people's faith in private pension funds and this particular manner of saving. These include better regulation, increased transparency which allows the future pensioners to know precisely which is the investment strategy of the pension fund at which they have their capitalization scheme, which is their risk and their expected rate of return. If policy makers do not succeed in convincing people that a combined public and private pension system is the future for the pension systems, all their efforts to maintain prosperity in ageing societies has been made in vain.

Table 3: Concrete measures taken by the CEE national authorities in response to the financial crisis

<i>Country</i>	<i>MEASURES</i>
<i>BG</i>	<ul style="list-style-type: none"> <li>- The government reduced the overall contribution rate to the pension system from 23% to 21% in 2010 (1,1 % for the employer and 0,9 % for the employee) and then gradually to 18% by 2013;</li> <li>- From 2012, the years of service for retirement will increase with four months per year.</li> </ul>
<i>CZ</i>	<ul style="list-style-type: none"> <li>- Delaying the introduction of the 2<sup>nd</sup> Pillar: 1<sup>st</sup> January 2013.</li> </ul>
<i>HU</i>	<ul style="list-style-type: none"> <li>- The government allowed the return from the private to public pillar during 2009 for those who are older than 51 at the end of 2008;</li> <li>- Elimination of 13<sup>th</sup> month pension;</li> <li>- In the future, the pension growth will be established according to an algorithm depending on the GDP growth as follows: GDP growth &lt; 3%, 100% inflation; GDP growth between 3-4%, 20% wages, 80% inflation; GDP growth between 4-5%, 40% wages, 60% inflation ; GDP growth &gt;5%, Swiss indexation;</li> <li>- Increase in retirement age from 57 to 62 years in 2010 and to 65 by 2012;</li> <li>- Increase in penalties for early retirement and giving bonuses for delayed retirement.</li> </ul>
<i>ES</i>	<ul style="list-style-type: none"> <li>- The contribution to the pension funds comprised in 2009 6 % of the gross income (2 % from the part of the employee + 4 % from the part of the state). The Estonian government has then diverted its 2<sup>nd</sup> pillar contributions (of 4%) to 1<sup>st</sup> pillar for two years (2009 and 2010); In 2011 there was a moving back to a 2% contribution to the 2<sup>nd</sup> Pillar, that is expected to rise gradually at 4% in 2012, with the possibility of higher 2<sup>nd</sup> pillar contributions of 6% in the period 2014-2017.</li> </ul>
<i>LV</i>	<ul style="list-style-type: none"> <li>-Contribution rates to the 2<sup>nd</sup> pillar reduced from 8% to 2% in May 2009; increasing to 4% in January 2010 and to 6% in January 2011 and remaining at this level (2<sup>nd</sup> pillar contribution rate was to rise to 10% in 2010 prior to the amendment)</li> <li>- First pillar benefits cut</li> <li>- Reduction of early retirement pensions from 80% of normal retirement pension, to 50% of normal retirement pension.</li> <li>- Early retirement will no longer be an option from January 1, 2012</li> </ul>
<i>LI</i>	<ul style="list-style-type: none"> <li>- Reduced the contribution rate to 2<sup>nd</sup> pillar from 5,5 % to 3 % in 2011 for two years. In 2011, compensation will take place by raising the contribution to 6 %.</li> <li>- The overall contribution rate was increased by 2% starting in January 2010.</li> <li>- Benefits cuts – all state-pensions were recalculated from 1<sup>st</sup> January 2010.</li> </ul>
<i>PL</i>	<ul style="list-style-type: none"> <li>- The government took the decision of reducing the contribution rate to the private mandatory pension funds in January 2011, from 7,3 % to 2,5 % (although with the possibility of rising the contribution to 3,5 % in the near future).</li> <li>- Elimination of numerous early retirement schemes (previously available to some 1 million people) .</li> <li>- Increase in retirement age for men and women to 67 by 2030</li> </ul>
<i>RO</i>	<ul style="list-style-type: none"> <li>-The overall rate contribution increased from 27.5% in 2008 to 31.3% in 2009, remaining stable in the present period.</li> <li>- Although the contribution rate to the 2nd pillar should have experienced an increase of 0,5 %, from 2 % in 2008 to 2,5 % in 2009, the level was frozen at 2% in 2009; the increase was realized only in 2010 (to 2,5 %) and then in 2011 (to 3 % of the gross income).</li> <li>- Equalizing gradually the retirement age of women with men at 65: <ul style="list-style-type: none"> <li>- in 2011-2015, for women from 59 to 60 and for men from 64 to 65;</li> <li>- from 2016-2030, for women till 65.</li> </ul> </li> <li>- Elimination of special pension schemes, integrating them in a public pension system and prohibition of early retirement for a period of 6 months (from July 2010 to 1<sup>st</sup> January 2011)</li> </ul>
<i>SK</i>	<ul style="list-style-type: none"> <li>- From a new defined-contribution scheme, the workers have been allowed to switch to the public system, having two options for this: January –June 2008 and November 2008 – June 2009</li> <li>- As far as concerns the second pillar participation for new participants, it was made voluntary as of January 2008.</li> </ul>

Source: realized by authors, data provided by World Bank, web pages of national commissions of surveillance of the private pension systems

## 5. Lessons to be learned, measures to be taken and final conclusions

Although the global financial crisis has generated difficult moments for all CEE countries, its influence pales in comparison with the “demographic time-bomb”. Like Börsch-Supan (2009) well observed, while the financial crisis is just one crisis among others, a century event, population aging is not just a phase; it will not go away, not even after the baby boom generation after 2050.

Schwarz et al. (2011) provoke us to look at the impact of the most pessimistic version of the global financial crisis next to the impact of the demographic crisis to come, for the ECA countries (Figure 4). The base case is the normal scenario, with the current demographic problems, but where the crisis did not occur. Though, we can see that projected future public pension system deficits are expected to increase permanently, staying at very high levels until 2050, when a slight improvement can be observed. The crisis line is the current scenario, for the worst hit countries. The next two scenarios are the ones where the authorities implement some policies like moving to inflation indexation and increasing the retirement age for both sexes with a rate of 6 months per year to 65 years. The lesson to be learned is that these two policies bring benefits to the pensioners in terms of increased protection over the short-run and major fiscal improvement for the long run.

Figure 4 – Projected first pillar deficits with an inflation indexation and a retirement age increase in the ECA region



Source: Schwarz et al. (2011)

Not at all popular from a political point of view, the reform of the current pension system represents therefore a necessity. The most important lesson learned from the crisis is that the reform must be continued, even in times of financial crisis, when politicians are expected to respond to its impact on the economic growth and employment by fostering fundamentally wrong measures like early retirement, “stimulus packages” or pension guarantees. These actions affect structural reform and have long-term negative effects on the public pension system sustainability.

Moreover, some other valuable lessons learned from the financial crisis involve:

- multi-pillar systems, in which private pension provision has a greater economic significance, are more exposed to financial turmoil, but they represent a necessity; asset prices and real returns are highly volatile from one year to another, generating concern and even panic for the ordinary citizens, that do not possess financial experience and are not used to investing with the purpose of getting higher returns over the long run; however, abrupt policy responses like the ones taken by the majority of CEE countries should be avoided since pension systems are designed to function over a long time horizon; nevertheless, there is a need that the first-pillar ensures protection for those individuals vulnerable to this kind of shock;

- The transition from defined-benefit to defined-contribution pension plan is a must, but since it brings a shift for the risk from employer towards individuals, a special attention must be paid to the management and supervision of the DC pension plans;

- Better regulation, increased transparency is required, allowing future pensioners to know precisely which is the investment strategy of the pension fund at which they have their capitalization scheme, which is their risk and their expected rate of return;

- Establishing a public-private campaign, to restore people’s faith in private pension funds and to increase their financial education. The current situation is ideal in order to develop a campaign with the aim of increasing the financial transparency of the pension schemes, taking into

consideration that the population is more aware of these issues now than before the crisis occur. Such campaign could improve the people's knowledge about the long-run benefits of a mixed pension scheme, not hiding the fact that during financial crises, the pension benefits may be affected due to the unemployment period and lower contributions and also to the lower returns on the financial markets. We are considering this moment as the proper one, since so far, benefits from funded scheme have played only a marginal role in the overall provision; the situation will change in the near future. Nevertheless, this campaign could play an educative role since there are still people in some CEE countries, which have their contribution to the mandatory private pension system randomly assigned by the state, because they do not have a personal choice, or they choose randomly the private pension, without considering the fact that the investment choice is the key for an adequate income at the old age.

- Increased attention with the public programmes, tailored to support those pensioners that were retired during and short after the financial crisis and which had their benefits more affected by the financial turmoil; these programmes must be carefully considered in terms of opportunity costs, they should mainly focus on pensioners with low levels of income;

- Improved risk management standards and regulations, which allow a better protection for retirees in the last part of the contributive period (a good practice example would be a pension fund that has a conservative investment strategy in the last part of the contribution period in order to minimize its exposure to financial risk);

On a longer run, we consider as appropriate the following measures in order to enhance the further pension system reform:

- Establishing the right balance between public and private tiers, in order to guarantee minimum retirement income; like Cybalski (2009) points out, "it appears that in the post communist countries, whose populations still have a low propensity to save, and in any case have much less opportunity to save voluntarily than in Western Europe due to their level of earnings; the pensions system must be based on compulsory pension cover, in order to prevent the "free riders" phenomenon";

- Allowing private pension funds to invest abroad and benefit from the portfolio diversification, scale economies and low transaction costs that the financial markets in more developed countries can generate (Kotlikoff, 1999);

- Inflation indexation after retirement; fostering the issuance of government inflation indexed bonds in order to provide more instruments in which private pension funds may invest, developing in the same time the domestic capital market;

- Increasing further the retirement age, up to 70, equalize it across the two sexes to deal with the long-run demographic threat, reduce access to early retirement. This thing will not be easy. Among the ten CEE considered countries, only Latvia and Hungary have the same retirement age for both men and women (but it must be increased, since the retirement age is very low);

- Complementing pension reforms with labor market reforms, like giving incentives for actively looking for a job, re-entering the working field after maternity leave, for hiring elderly or supporting life-long learning programmes necessary to mitigate the effect of age-discrimination. As European Commission (2010) well outlines, "raising the employment rates of older workers, including those over 65 will be crucial for the ability of Member States to smooth the transition from large to smaller cohorts and deliver adequate and sustainable pensions".

To conclude with, we would say that, beyond the negative effects of the financial crisis, which have generated abrupt reactions from the part of public authorities from the CEE countries, that were pressured to take act, reform of the pension system must be continued. Pensions have a long-time horizon and it would be very wrong to produce a reversal of the past reforms since the main problems of adequacy and sustainability remain vivid (demographic challenge and population aging). It is also true that, while shifting from a defined-benefit to a defined-contribution plan, authorities must pay attention to the governance of the private pension funds.

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