

DISAPPOINTING PERFORMANCE OF PENSION PRIVATIZATION IN EASTERN EUROPE

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During first 15 years of their existence, mandatory private pension funds in Eastern Europe have realized rates of return that were lower and more volatile than the corresponding Pay-As-You-Go rates of return, even before the emergence of global financial crisis. Suboptimal investments in domestic government bonds dominated pension portfolios in many countries. Econometric analysis suggests that pension privatization failed to produce anticipated side-effect benefits, such as increased national saving or accelerated economic growth. If pension privatization structural weaknesses are unlikely to be resolved successfully then implementing reform reversals could improve short-term fiscal balance without deteriorating long-term pension sustainability.

1 Introduction

While transitioning from centrally-planned to free-market economies, many Eastern European countries opted for radical *pension privatization* reforms around the turning of the millennium. This approach entailed partial termination of existing public Pay-As-You-Go pension schemes and introduction of mandatory private pension funds in their place, the so-called *second pension pillar*. The professional public at the time was strongly divided regarding the feasibility of this reform approach. While the World Bank (1994) favored pension privatization and argued that it would not only enable future beneficiaries to obtain higher returns on their pension contributions but would also increase national saving and accelerate economic growth, opponents challenged most of the promised reform benefits (Beattie and McGillivray, 1995; Stiglitz and Orszag, 2001; Barr, 2000).

In this paper we analyze initial reform results and experiences from Eastern European countries 15 years after the start of pension privatization trend. We show that most of the reform expectations have thus far remained unfulfilled. Pension privatization failed to produce anticipated side-effect economic benefits such as improved national saving or accelerated economic growth. Most disappointingly, second pillar returns were lower and more volatile than PAYG returns in most Eastern European countries, even before the occurrence of global financial crisis in 2008. Besides known pension privatization weaknesses, such as high operating costs and inadequate organization of the payout phase, we identify the prevalence of domestic government bonds in second pillar portfolios as a major structural deficiency of pension privatization in Eastern Europe.

Faced with the absence of positive economic effects and the need to finance significant transitional deficits, many Eastern European countries have recently decided to partially or completely reverse pension privatization reforms. Concerns have been raised that these reform reversals represent short-sighted and irresponsible policies that deteriorate long-term pension sustainability. However, we show that poor second pillar performance makes it possible for reform reversals to improve short-term fiscal position without necessarily deteriorating long-term sustainability. Consequently, recent economic crisis should not be considered a major driver behind

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reform reversals but merely a catalyst that highlighted and exacerbated existing pension privatization structural deficiencies (Fultz, 2012). These deficiencies need to be resolved in order to avoid maintaining a suboptimal pension system design throughout the 21st century.

This paper is organized as follows: Section 2 describes pension privatization dynamics in Eastern Europe and Section 3 shows that second pillar returns were lower and more volatile than PAYG returns. In Section 4 we explain that second pillar portfolios were often dominated by the inefficient investments in domestic government bonds. Econometric analysis in Section 5 shows that pension privatization failed to produce statistically significant improvements in national saving or economic growth. In Section 6 we argue that concerns over recent reforms reversals have not been backed with solid economic analysis, while the concluding remarks are presented in Section 7.

Appendix A briefly describes political aspects of recent reform reversals in several countries. Appendix B presents annual data on the performance of mandatory private pension funds in Eastern Europe. Appendix C explains that stark differences between this paper and World Bank policy conclusions can at least partly be explained by the fact that recent World Bank studies have been based on incorrect and upwardly biased data on the performance of mandatory private pension funds in Eastern Europe.

2 Description of Pension Privatization in Eastern Europe

Reforming countries opted for scaling down of existing Bismarck-style public PAYG systems and partial pension privatization approach whereby one quarter to one third of existing PAYG contribution was diverted from the public pension system to the newly created system of mandatory private pension funds (MPFs) based on full funding and individual accounts. This *carve-out approach* to pension privatization created a huge revenue shortfall in the public PAYG system, the so-called *transitional deficit*, which has to be financed over the next four to five decades until existing accrued PAYG liabilities are serviced in full.¹

Since inception, many reforming countries have been progressively increasing the second pillar contribution rate over the years, thus consequently increasing the revenue shortfall in the public PAYG system. This trend lasted until 2008 when the global economic crisis triggered fiscal destabilization of many Eastern European economies which had to cope not only with the economic recession but also with financing significant pension privatization transitional deficits which in 2010 equaled 1.1 per cent of GDP in Estonia, 1.2 per cent of GDP in Slovakia, 1.4 per cent of GDP in Hungary, 1.7 per cent of GDP in Poland and 2.3 per cent of GDP in Latvia (Egert, 2012). Faced with severely strained public finances, several reforming countries – Poland, Latvia, Lithuania, and Slovakia – have decided to permanently reduce the amount of pension contributions diverted to MPFs. Hungary decided to nationalize MPFs and completely terminate the second pension pillar in 2011.

3 Performance of mandatory private pension funds in Eastern Europe

The *Samuelson-Aaron Theorem* explains that in a PAYG system contributors earn a rate of return equal to the GDP growth g while contributors in funded systems earn the rate of return r on

¹ The carve-out approach should be contrasted with the *add-on pension privatization* where MPFs' contributions are legislated on top of existing PAYG contributions, thus avoiding the emergence of transitional deficits. The add-on approach is however feasible only in countries with modest Beveridge-style public pension systems, such as Australia or Denmark.

Table 1

Dynamics of Pension Privatization in Eastern Europe

Country	Pillar 2 Inception	Pillar 2 Contribution Rate (percent of wage)		
		At Inception	2007	2012
Hungary	Jan 1998	6.0	8.0	0.0
Poland	Jan 1999	7.3	7.3	2.3
Latvia	Jul 2001	2.0	8.0	2.0
Bulgaria	Apr 2002	2.0	5.0	5.0
Croatia	May 2002	5.0	5.0	5.0
Estonia	Jul 2002	6.0	6.0	6.0
Lithuania	Jun 2004	2.5	5.5	1.5
Slovakia	Apr 2005	9.0	9.0	4.0
Macedonia	Feb 2006	7.4	7.4	7.4
Romania	May 2008	2.0	n.a.	3.5
Average		4.9	6.8	3.7

Notes: Estonia is the only country which partially relied on the add-on approach – MPFs' contributions totaled 6 per cent of gross wages with 4 per cent being diverted from the PAYG system and 2 per cent representing additional contributions for workers participating in the second pillar. Lithuania implemented a quasi-mandatory second pillar whereby workers were allowed to voluntary opt-in but could not opt-out afterwards.

accumulated pension assets (Samuelson, 1958; Aaron, 1966). Funded pension systems are thus more efficient, in a Pareto sense, and provide higher pension payments for the same amount of contributions made if and only if $r > g$. It should be stressed that the Samuelson-Aaron criterion is directly applicable only in the case of add-on pension privatization.² Due to the existence of accrued PAYG liabilities (*implicit pension debt*) and transitional deficits, it is impossible to implement carve-out pension privatization that would constitute a Pareto improvement for all generations (Breyer, 1989).³

Pension privatization could nonetheless be justified if the $(r - g)$ spread is significant and social preferences of existing generations are such that the welfare of future generations is highly valued.⁴ A major motivation for implementing pension privatization was precisely the fact that

² As Settergren and Mikula (2005) stress, the Samuelson-Aaron theorem holds exactly only for populations in a steady state. Increasing life expectancy, present in most countries, actually makes the PAYG IRR slightly larger than the GDP growth. For simplicity reasons, we will ignore this issue in this paper.

³ A few authors have tried to identify Pareto transitions from PAYG to funded pension systems. In doing so, they have either relied on efficiency-driven tax reform (Kotlikoff, 1998; Breyer and Straub, 1993) or on positive externalities to capital accumulation (Belan *et al.*, 2000). If such Pareto improvements would indeed be feasible in reality, they should be undertaken irrespective of pension reform efforts.

⁴ Emergence of PAYG systems in the early 20th century seems to imply the opposite in social preferences – the welfare of existing generations had been given precedence over the welfare of future generations.

Table 2

Initial Performance of Second Pension Pillar in Eastern Europe
(percent)

Country	Second Pillar Inception	Since Inception Until end-2007			Since Inception Until end-2012			Standard Deviation	
		2 nd Pillar	GDP	Diff	2 nd Pillar	GDP	Diff	2 nd Pillar	GDP
Hungary	Jan 1998	2.6	3.6	-1.0	1.4	2.4	-0.9	9.3	3.1
Poland	Jan 1999	8.2	4.1	4.1	5.3	3.9	1.5	9.0	1.8
Latvia	Jul 2001	-2.4	8.9	-11.4	-1.6	3.8	-5.4	8.8	8.2
Bulgaria	Apr 2002	4.3	6.1	-1.8	0.3	3.5	-3.3	9.5	3.9
Croatia	May 2002	4.5	4.8	-0.4	2.6	1.6	1.0	7.3	4.1
Estonia	Jul 2002	3.4	8.1	-4.7	-0.2	3.7	-3.9	11.6	7.2
Lithuania	Jun 2004	2.4	8.3	-5.9	-0.1	3.1	-3.1	12.2	7.4
Slovakia	Apr 2005	1.3	8.7	-7.4	-1.3	4.3	-5.6	3.8	4.7
Macedonia	Feb 2006	2.7	5.6	-2.9	1.8	2.9	-1.1	8.8	2.7
Romania	May 2008	-	-	-	5.7	-0.2	5.9	4.4	5.1
AVERAGE		3.0	6.5	-3.5	1.4	2.9	-1.5	8.5	4.8

Notes: Authors calculations based on official data from national supervisory authorities. Average performance is based on geometric averaging. Calculations appropriately take into account cases where second pillar inception was in mid-year. Data for Hungary concludes with 2010.

Table 3

Portfolio Structure of Mandatory Private Pension Funds
(end-2007)

Country	Assets (percent of GDP)	2 nd Pillar Portfolio Structure			
		Gov't Bonds	Equities	Bank Deposits	Other
Hungary	7.8%	58.5%	32.8%	0.9%	7.9%
Poland	11.9%	59.9%	34.9%	2.9%	2.3%
Latvia	1.6%	33.4%	24.3%	42.1%	0.2%
Bulgaria	2.1%	18.5%	28.3%	16.2%	37.0%
Croatia	6.7%	63.6%	26.7%	2.2%	7.4%
Estonia	4.5%	31.0%	40.0%	8.0%	21.0%
Lithuania	1.7%	29.6%	39.3%	17.5%	13.6%
Slovakia	2.8%	49.6%	15.1%	30.5%	4.8%
Macedonia	0.9%	59.9%	21.6%	18.5%	0.0%

Source: Altiparmakov (2011).

Note: We analyze end-2007 data since later data could be considered biased due to the emergence of global financial crisis. *Other assets* include corporate and municipal bonds, and also "investments abroad" for countries where these investments are treated separately (Bulgaria and Croatia).

(gross) returns on capital are in general tangibly higher than GDP growth.⁵ At the time pension privatization was being implemented in Eastern Europe, most simulations assumed that mandatory private pension funds' net returns would outperform GDP growth by 1.5 to 2 percentage points in the long term (World Bank, 2013, p. 61). However, early empirical evidence from Eastern Europe in Table 2 suggests that net second pillar returns were mostly lower than GDP growth.⁶

Data for the first 15 years of pension privatization in Eastern Europe reveals a very disappointing performance of mandatory private pension funds. Second pillar returns in most countries were lower than GDP growth, even before the global financial crisis. It is especially disappointing that MPFs in Estonia, Latvia, Lithuania and Slovakia posted negative real returns, while the returns in Bulgaria were barely positive. Polish second pillar seems to represent a major exception with returns tangibly higher than GDP growth both before and after the emergence of the global financial crisis.⁷

While realized returns were much lower than expected, the volatility of second pillar returns is, in line with expectations, tangibly higher than GDP volatility.⁸ This echoes the fact that returns to capital are inherently more volatile and risky thus requiring an appropriate downward risk adjustment when being compared against less volatile PAYG returns (Geanakoplos *et al.*, 1998; Orszag and Stiglitz, 2001). It should be stressed that poor second pillar performance was not driven by the global financial crisis since even before the crisis only Polish second pillar funds were able to outperform GDP growth.⁹ In order to analyze this issue more carefully we break down MPFs' investment portfolios into four major asset classes.

We can notice that the majority of MPFs' assets in Central Europe have been invested in government bonds which, at the end of 2007, accounted for over 50 per cent of second pillar portfolios. Investments in government bonds have been much less pronounced in the Baltic States, reflecting, *inter alia*, more liberal regulations with respect to investments abroad. On the other hand, Central European countries adopted strict limitations to investing abroad, hoping to use most of the accumulated mandatory retirement saving to finance domestic investments and accelerate economic growth.

Investments in government securities seemed to solve both the investment challenges of private pension funds and the government financing problems. Faced with shallow and undeveloped capital markets in transitioning Eastern European economies on one side and limitations on investments abroad on the other, government bonds represented a natural investment choice for MPFs. At the same time, Eastern European governments have realized that transitional deficits have been seriously underestimated and neglected during the preparatory stage of pension privatization (Drahokoupil and Domonkos, 2012). Faced with the task of financing significant

⁵ Opponents argued that although gross rates of return on capital are in general higher than GDP growth, one can not *a priori* justify pension privatization due to high management costs of private pension funds, appropriate risk adjustment and the need to finance accrued PAYG liabilities (Barr, 2000).

⁶ Second pillar returns in Table 2 could be more precisely described as "semi-net return" since they measure gross returns net of annual management fees but gross of any contribution and exit fees. These fees were not deducted in order to avoid possible methodological ambiguities.

⁷ Romania has only recently introduced second pillar, after the emergence of global financial crisis, which makes the data for this country statistically unreliable for extrapolating long-term trends or drawing firm conclusions. Also, the Croatian data is somewhat upward biased due to politically motivated inflation of second pillar returns in the inception year – government bonds were sold with an extraordinarily high discount yielding a 15 per cent real rate of return in the inception year (Matkovic *et al.*, 2009).

⁸ Low volatility of returns in Romania and Slovakia are exceptions. As mentioned, second pillar has been introduced in Romania after the emergence of global financial crisis and cannot be considered representative. Since 2009 MPFs in Slovakia were required to cover, from own capital, any negative nominal returns to retirement savings. This stringent regulation has induced pension funds to mostly invest in low-risk assets with a correspondingly low, even negative, level of real returns.

⁹ Bielecki (2011) shows that second pillar returns net of all fees were actually lower than PAYG returns in Poland over the 1999-2010 period. As mentioned, we will not be deducting front-loaded contribution fees from second pillar returns in this article to avoid any methodological ambiguities.

transitional and budget deficits, issuing bonds and borrowing from cash-rich MPFs was a quick-fix solution for government finances. These short-term partial solutions however gave rise to a suboptimal allocation of resources from the overall national perspective.

4 Disguised-PAYG financing mechanism

For decades, government bonds have represented a crucial investment instrument for pension funds in most developed countries. However, the pension privatization environment in Eastern Europe is not directly comparable to that of developed countries, not the least because participation in private pension funds is voluntary in most developed countries implying different intra- and inter-generational distribution of risks and benefits compared to the mandatory carve-out participation in Eastern Europe. In the context of the carve-out pension privatization, beneficiaries' welfare would have been higher if MPFs assets invested in government bonds had not been diverted from the PAYG system in the first place. Diverting first pillar PAYG contributions to the second pillar only to have MPFs invest the money back to the government represents a very expensive form of PAYG financing which we will refer to as *disguised-PAYG* financing.

Traditional PAYG financing strictly dominates disguised-PAYG financing due to hefty second pillar management fees. In particular, (un-weighted) average contribution fee in Eastern Europe stood at 2 per cent in 2012 while the average management fee was 0.8 per cent.¹⁰ Inferiority of disguised-PAYG financing is most obvious exactly in the case of Poland which runs an NDC first pension pillar.¹¹ In this case beneficiaries could have earned a notional rate of return in the first pillar NDC accounts by about 0.5 percentage points higher than what they have been earning in the second pillar DC accounts.

It should be stressed that disguised-PAYG financing is not suboptimal only in countries running an NDC first pension pillar – it applies to all instance of carve-out pension privatizations since NDC systems, point systems and traditional defined-benefit systems are basically equivalent forms of PAYG financing (Whitehouse, 2006). Disguised-PAYG financing thus represents a major pension privatization deficiency in Eastern Europe which not only reduces beneficiaries' welfare but also increases public debt (Section 6).¹² In particular, at the end of 2012 government debt securities accounted for 65 per cent of second pillar assets in Croatia, Slovakia and Macedonia and 75 per cent in Romania.¹³

The problems of disguised-PAYG financing and low second pillar returns bellow GDP growth have already been documented in the literature, for example Impavido and Rocha (2006) in the case of Hungary. However, these were mostly considered as isolated cases or exceptions to the general trend of impressive second pillar performance. In fact, the World Bank (2009, Table 2, p. 7) incorrectly asserts that second pillars in Eastern Europe were able to outperform GDP growth before the global financial crisis, when we can clearly see from Table 2, and also from Appendix C – that quite the opposite was the case.

Disappointing second pillar returns have lead many countries to amend investment regulations and consider more liberal limits to investments abroad, expansion of alternative risk-return portfolios and introduction of life-cycle investment strategies. However, from national

¹⁰ It should be remembered that management fees reduce pension saving exponentially – 1 per cent annual management fee reduces any pension savings by 20 per cent over the 40-year working career (Whitehouse, 2001).

¹¹ NDC stands for Notional Defined Contribution – a PAYG scheme that mirrors the functioning of private fully-funded defined contribution pension funds.

¹² Disguised-PAYG financing could also increase labor market distortions since it replaces pension contributions with tax levies and thus completely breaks the link with potential pension benefits.

¹³ Extremely high second pillar returns in Romania in Table 2 are also due to disguised-PAYG financing.

point of view, the crucial aspect of second pillar portfolios that should be addressed is the presence of suboptimal disguised-PAYG financing.

Groundbreaking pension privatization in Chile was preceded with draconian austerity measures that produced a surplus of 8 per cent of GDP in the non-pension part of the public sector (Arenas De Mesa and Mesa-Lago, 2006). This huge surplus allowed for non-debt financing of transitional deficits and precluded the dominance of disguised-PAYG financing. However, other reforming countries were mostly unsuccessful at implementing appropriate austerity measures to support pension privatization “resulting to a large extent on a debt-financed transition and relatively large issues of Government bonds, which ended up in the portfolios of pension funds” (Impavido and Rocha, 2006, p. 8).¹⁴

Lack of political support for strict and long lasting austerity measures required to preclude the emergence of disguised-PAYG financing severely undermines the feasibility of carve-out pension privatization. A “modest second pillar, financed by about 3 percentage points diverted from the first pillar, seems to be a maximum that is politically feasible in Central-Eastern European countries” (Drahokoupil and Domonkos, 2012). However, such a modest second pillar would represent a poor diversification of retirement provision and would likely be inefficient due to relatively high management costs. If current generations are not willing or not able to make a sacrifice big enough to enable the creation of a meaningful second pension pillar, then one should consider alternative reform approaches.

For example, Eastern European countries with good public governance record could consider establishing a public pension reserve fund in line with best international practices. This approach would enable the minimization of management costs even at a relatively low level of annual funding commitments and would also solve the second pillar payout phase problems.¹⁵ Countries with less than satisfactory quality of public governance could consider the option of public debt repayment, which represents an alternative form of intergenerational transfer from current to future generations (Diamond, 1965). Further strengthening of voluntary retirement savings is another option Eastern European countries have at their disposal. However, the workers should not be allowed to choose between public PAYG provision and private second pillar since common citizens neither have technical expertise nor relevant information to make a rational welfare-maximizing decision in this case. For example, for many older workers which voluntarily joined Hungarian second pillar in 1998 the ultimate accumulated second pillar savings were lower than the foregone PAYG benefits.

5 Macroeconomic side-effects of pension privatization

In this section we use reduced-form regressions to investigate whether pension privatization produced statistically significant improvements in the national saving rate or the rate of economic growth. We use a balanced panel of annual data over the 1998 to 2012 period for 10 Eastern European countries for which comparable macroeconomic data was available from the Eurostat database. Pension privatization is modeled by the percentage points of pension contributions diverted from the PAYG system into the second pillar in any particular year. This allows us to

¹⁴ Disguised-PAYG financing described in this paper is actually a special case of a more general issue: if carve-out pension privatization is not accompanied with appropriate austerity measures to cover transitional deficits then long-term pension sustainability would be improved only if second pillar returns are higher than both GDP growth *and* the cost of government borrowing required to finance the transitional deficits.

¹⁵ Public reserve fund might be an appealing alternative to maintaining a next to meaningless second pillar in Poland with the reformed contribution rate set at only 2.9 per cent of wage. Especially since Poland already has a Demographic Reserve Fund whose operations could be modernized and expanded for this purpose.

Table 4

National Saving Regression Results

Variable	Const	Growth Rate	Unemployment	Inflation	Investment	Second Pillar
Value	13.39954	-0.066835	0.180773	-0.116444	0.208760	0.051941
<i>p</i> -stat	0.0000	0.1720	0.0273	0.0019	0.0030	0.6147

Note: R-squared value is 0.651610, adjusted R-squared is 0.615481

capture the variability of second pillar size over different countries as well as the second pillar variability within the country over the years. Panel regression with fixed country effects was used to estimate second pillar effects.¹⁶

Table 4 presents results from the national saving regression. GDP growth rate, unemployment rate, inflation and domestic investment (as per cent of GDP) were used as control variables. Except for the GDP growth rate, all other control variables are found to be statistically significant and broadly in line with expectations – higher inflation rate was found to discourage saving, uncertainty associated with higher unemployment was found to increase (precautionary) saving, while domestic investment was found to be positively correlated with national saving rate in line with Feldstein-Horioka puzzle. The effect of pension privatization on national saving rate was found to be insignificant. The emergence of disguised-PAYG financing no doubt contributed to the absence of positive effects on national saving since debt financing of transitional deficits is unlikely to increase national saving (World Bank, 2014, p. 117).

Dragutinovic-Mitrovic and Ivancev (2010) analyze growth performance of Eastern European countries in the second decade of transition and find statistically significant effects of macroeconomic stabilization policies (captured by the rate of inflation), public sector reforms (captured by the share of government expenditures in GDP) and foreign trade liberalization (captured by the share of imports and exports in GDP). We extend their model with the second pillar explanatory variable, see Table 5. All the control variables are found to be statistically significant and in line with expectations. The effect of pension privatization on economic growth was found to be negative and statistically significant. Testing alternative regression specifications can produce one or two specifications with a statistically insignificant effect of pension privatization. However, no regression specification has been found to suggest statistically significant positive effects of pension privatization. Thus, we can conclude that the absence of positive effects of pension privatization on economic growth is a fairly robust empirical result.

Empirical analysis in this section suggests the absence of macroeconomic improvements associated with pension privatization in Eastern Europe. This conclusion is in line with earlier findings of the World Bank Independent Evaluations Group (2006) that secondary objectives of pension privatization “have remained largely unmet”.¹⁷ The absence of side-effect benefits further added to the discontent over disappointing second pillar performance, thus reinforcing the likelihood of reform reversals.

¹⁶ Countries included in the panel analysis are Hungary, Poland, Latvia, Estonia, Lithuania, Romania, Bulgaria, Slovakia, Czech Republic and Slovenia.

¹⁷ World Bank Independent Evaluations Group reached this conclusion mostly based on the experiences from Latin America. This article shows experiences from Eastern Europe portray a similar picture.

Table 5

Economic Growth Regression Results

Variable	Const	EU-15 Growth Rate	Investment	Foreign Trade	Government Expenditures	Inflation	Second Pillar
Value	21.06608	1.248551	0.256400	0.034820	-0.685004	-0.099223	-0.292287
<i>p</i> -stat	0.0001	0.0000	0.0001	0.0256	0.0000	0.0135	0.0060

Note: R-squared value is 0.715471, adjusted R-squared is 0.683620.

6 Concerns over reform reversals

Faced with the disappointing second pillar returns, the absence of side-effect economic benefits and the need to finance significant transitional deficits amid global economic recession, many Eastern European countries implemented reform reversals in recent years. Estonia temporarily reduced second pillar contribution rate from 6 to 2 per cent over the 2009-2011 period. Latvia, Lithuania and Slovakia opted for permanent reductions and down-sizing of second pension pillars (Table 1). Poland legislated provisions to prevent the emergence of disguised-PAYG financing in the future and has reduced the second pillar contribution rate from 7.3 to 2.9 per cent in 2013. Hungary decided to completely terminate and nationalize second pension pillar in 2011.

Several international institutions, including the World Bank and OECD, have raised concerns that reform reversals represent short-sighted policies that improve short-term fiscal position at the cost of deteriorating long-term pension sustainability. In particular, World Bank (2014, p. 145) states that reversing pension privatization “addresses the short-term problem at the cost of significantly worsening the long-term fiscal situation, reducing the future pensions of individuals, or a combination of both”. In this section we evaluate the validity of these concerns and investigate the arguments behind them.

When analyzing second pillar retrenchment in Poland, OECD notes that “the increased role of the public pay-as-you-go system in a context of rapid population ageing may further lower future replacement rates” (OECD, 2014, p. 18). However, it seems unlikely that terminating second pillar disguised-PAYG financing and replacing it with the traditional first pillar NDC PAYG financing would result in lower future replacement rates. In fact, the elimination of hefty second pillar management fees should improve pension system sustainability without reducing future entitlements, or equivalently, pension entitlements could be improved without deteriorating long-term sustainability. OECD concerns are based on the OECD Working Paper (Egert, 2012) which makes alternative simulations 200 years into the future and identifies that Polish reform reversal might deteriorate pension system sustainability in some (pessimistic) scenarios. However, it seems ill-advised to base the assessment on inherently unreliable 200-year long projections when the crucial information on Polish reform reversal is already available at hand. If disguised-PAYG financing is indeed inferior to traditional PAYG financing, as we have been suggesting in this paper, then Polish reform reversal can not lead to the deterioration of long-term sustainability under any simulation scenario.

World Bank (2014, p. 146) states that the “asymmetry in the treatment of explicit and implicit debt is at the heart of the incentives for reversing pension reforms”. It should be noted that the asymmetrical treatment is well deserved due to significant differences between the two and the fact that implicit pension debt is likely to be more easily manageable than explicit public debt (Franco, 1995). Nonetheless, even if implicit and explicit debt were to be hypothetically treated equally within the Stability and Growth Pact framework, disguised-PAYG financing would still be dominated by NDC PAYG financing due to the absence of hefty management fees. Thus, incentives for eliminating disguised-PAYG financing go beyond statistical treatment of implicit pension and explicit public debt and rest on the possibility to increase pension benefits without deteriorating long-term sustainability.

Disguised-PAYG financing was also a major issue in Hungary where more than 60 per cent of second pillar assets were invested in government bonds. Hungary however opted for a more radical reform reversal whereby not only disguised-PAYG financing was eliminated but second pension pillar was terminated altogether. Complete pension privatization reversal has several potential advantages over partial reversal aimed only at eliminating the disguised-PAYG financing. Under reasonable assumptions, workers should save (at least) 20 per cent of their wages during the working career in order to afford adequate consumption smoothing in retirement. A very small second pillar with a contribution rate of only 2.9 per cent provides rather poor diversification of retirement income against the public PAYG system. Furthermore, pension fund business is a fixed cost per account business (Schwartz, 2011), which means that second pillar fees could eat up even more retirement savings as second pillar contributions get smaller. Also, complete nationalization solves the second pillar payout phase problem which Eastern European countries were unable to resolve using private market instruments.¹⁸ The final argument in favor of complete reform reversal is the fact that second pillar returns in Hungary, as in most Eastern European countries, were lower and more volatile than PAYG returns.

Slovakia, Latvia and Lithuania opted to permanently reduce second pillar contribution rates in recent years (Table 1). Second pillar returns in these countries were not only lower than PAYG returns, but were in fact negative in real terms.¹⁹ Latvian real returns are especially troublesome since they were significantly negative even before the global financial crisis. Negative real rates of return can not possibly produce decent replacement rates which were anticipated at the time of pension privatization. Thus, down-sizing the second pillar and relying more heavily on the first PAYG pillar can make sense in these countries given the extremely poor performance of their mandatory private DC funds.

The World Bank (2014, p. 144) states that pension privatization “solves a long-term fiscal problem, but it also creates discomfort during the transition, often requiring additional fiscal efforts for at least a couple of decades”. However, in order for pension privatization to improve pension sustainability in the long term two crucial preconditions have to be met: 1) disguised-PAYG financing should not dominate second pillar operations and 2) second pillar returns should be tangibly higher than GDP growth. No country in Eastern Europe has thus far been successful at fulfilling these two preconditions. Failure to fulfill them would mean that pension privatization would deteriorate short-term fiscal position without improving long-term pension sustainability. In this case reform reversals could improve short-term fiscal balances without necessarily deteriorating long-term sustainability.

¹⁸ In fact, recent reforms in Poland prescribe that the government will become responsible for paying out second pillar savings in order to allow adequate inflation and longevity insurance. A similar solution had been contemplated in Hungary before MPFs were nationalized.

¹⁹ Despite extremely poor performance, MPFs in the Baltics have been charging the highest management fees in Eastern Europe in 2012 which stood at 1.5 per cent of assets in Latvia and Estonia, and 1 per cent in Lithuania.

7 Concluding remarks

Critical assessments of pension privatization strengths and weaknesses seem to have been absent in many Eastern European countries at the time this reform approach was being implemented. One crucial aspect that was not properly addressed at the time is the need to finance substantial transitional deficits over the period of 40 years or more. Initial empirical evidence shows that second pillar returns in Eastern Europe were disappointingly low, negative in real terms in some countries, even before the emergence of global financial crisis. Pension privatization also seems to have failed to increase national saving or accelerate economic growth.

In order for the carve-out pension privatization to improve long-term pension sustainability two crucial preconditions have to be fulfilled: 1) disguised-PAYG financing should not dominate second pillar operations and 2) second pillar returns should be tangibly higher than GDP growth. None of the Eastern European countries have thus far succeeded in fulfilling these preconditions. Not fulfilling those means that pension sustainability will not improve even if countries are able to successfully finance 40 or 50 years of transitional deficits. In this scenario reform reversals could improve short-term fiscal position without necessarily deteriorating long-term sustainability.

Recent economic crisis created an opportunity to use the available data and experiences to critically assess pension privatization performance thus far and to see to what extent have reform expectations been fulfilled. If second pillar weaknesses identified in this paper are unlikely to be successfully resolved it seems reasonable to consider partial or complete reform reversal plans instead of maintaining a suboptimal pension system design throughout the 21st century. Regardless whether Eastern European countries opt to preserve or reverse pension privatization, long-term pension sustainability in these countries will inevitably have to rely on the appropriate parametric changes and PAYG reforms in the coming years – as is the case in most Western European countries that have not resorted to carve-out pension privatization.

APPENDIX A

POLITICAL ASPECTS OF REFORM REVERSALS IN EASTERN EUROPE

Proponents of pension privatization have been arguing that MPFs would be insulated from fiscally irresponsible political influences which were seen as a contributing factor to the insolvency of PAYG schemes in many countries (World Bank, 1994). On the other hand, opponents of pension privatization were stressing that retirement income provision presents such a crucial segment of modern societies that making it immune to political interferences was highly unrealistic (Orszag and Stiglitz, 2001; Barr, 2000). In fact, even in the case of the ground-breaking complete pension privatization in Chile the pension system failed to be immune from political interference. Inability of MPFs to provide adequate protection against old-age poverty created social discontent and political pressures that in 2008 lead to the introduction of non-contributory tax-financed social pensions. Partial pension privatization efforts in Eastern Europe have proven to be even more susceptible to political interference.

Carve-out pension privatization in Eastern Europe was marked with fierce political debates (Mueller, 2003). Second pillar thus never gained cross-party consensus or broad-based support from social partners. Interestingly enough, when disappointing results started to emerge, it was not only political parties that have opposed pension privatization but also parties that championed second pillar introduction – that started to express the discontent and to contemplate reform reversal plans. Examples in this section indicate that pension privatization might have, in fact, degraded the quality of political debates and resulted in suboptimal, welfare reducing, provisions in some instances.

In Croatia and Poland, the right-wing parties that championed pension privatization were the ones to introduce reform reversal plans onto political agenda. Croatian prime minister and minister of finance from the right-wing HDZ party were the first to declare “second pillar a failure” in early 2009. Their initiative was however short-lived since it met strong and well organized resistance from the local financial community. On the other hand, Polish right-wing PO party was determined to implement significant reform reversals despite strong opposition from the local financial community. In 2013 Poland implemented legal changes to eliminate disguised-PAYG financing: second pillar contribution rate has been reduced from 7.3 to 2.9 per cent of wages and mandatory private pension funds were forbidden from investing in government securities.

Downsizing of second pillars in Latvia and Lithuania also met resistance from local financial communities, albeit to a lesser extent than in Croatia or Poland. Nonetheless, Lithuanian Constitutional Court was asked to forbid the decrease of second pillar contributions.

Right-wing FIDESZ party in Hungary and left-wing SMER party in Slovakia have been long-time opponents of pension privatization. It was thus no big surprise when FIDESZ government decided to terminate and nationalize second pension pillar in 2010, after winning a land-slide election victory. Interestingly enough, the most radical reform reversal in Eastern Europe to date did not face major political resistance since the opposition Socialist party, which introduced MPFs in Hungary in 1998, was itself contemplating possible reform reversal plans to address the disappointing second pillar performance. On the other hand, SMER party faced fierce political resistance in trying to down-size Slovakian second pension pillar and reduce second pillar contributions from 9 to 4 per cent of wages.

Political debates between SMER party and right-wing parties that championed pension privatization in 2005 resulted in suboptimal pension policies which included a limited opportunity for participants to opt-out of second pillar, significant reduction of management fees from 0.7 to 0.3 per cent per annum and requirement for second pillar funds to guarantee non-negative nominal returns to their beneficiaries. However, common citizens can hardly be expected to rationally

decide whether they should opt-out or remain in the second pension pillar, especially given significant policy uncertainty regarding future prospects of the Slovakian public pension system. Furthermore, the combination of low management fees and non-negative returns guarantee resulted in extremely conservative investment portfolios which generated negative real returns. After a land-slide election victory in 2012, SMER party managed to implement its original plan and reduced second pillar contribution rate from 9 to 4 per cent of wages.

APPENDIX B

Table 6

Second Pension Pillar Performance in Eastern Europe, Until end-2012

		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Hungary	Nominal Returns	15.7	17.1	7.9	8.0	7.4	3.4	16.3	13.0	4.5	7.0	-20.0	23.7	7.6	n/a	n/a
	Real Returns	4.9	5.3	-2.0	1.1	2.5	-2.2	10.2	9.4	-1.9	-0.4	-22.7	17.2	2.8	n/a	n/a
	GDP Growth	4.1	3.2	4.2	3.8	4.5	3.8	4.6	4.1	3.9	0.1	0.7	-6.7	1.2	1.7	-1.7
Poland	Nominal Returns		15.1	13.2	7.3	13.6	10.9	14.0	15.0	16.3	6.2	-14.2	13.7	11.2	-4.6	16.4
	Real Returns		4.8	4.3	3.6	12.7	9.1	9.2	14.2	14.7	2.2	-17.0	9.8	7.8	-8.8	13.6
	GDP Growth		4.5	4.3	1.2	1.4	3.9	5.3	3.6	6.2	6.8	5.1	1.6	3.9	4.3	2.0
Latvia	Nominal Returns				4.9	6.3	0.3	3.8	6.7	2.8	2.5	-11.5	12.3	7.6	-2.0	9.0
	Real Returns				1.7	4.7	-3.1	-3.4	-0.3	-3.7	-10.1	-19.8	13.9	5.1	-5.6	7.3
	GDP Growth				7.3	7.2	7.6	8.9	10.1	11.2	9.6	-3.3	-17.7	-0.9	5.5	5.6
Bulgaria	Nominal Returns					14.1	11.0	11.8	7.6	7.3	15.4	-20.1	7.9	5.0	-0.4	7.5
	Real Returns					9.9	5.1	7.5	0.2	1.2	3.4	-25.5	6.2	0.5	-2.4	4.6
	GDP Growth					4.7	5.5	6.7	6.4	6.5	6.4	6.2	-5.5	0.4	1.8	0.8
Croatia	Nominal Returns					17.1	5.1	7.4	7.1	5.7	6.8	-12.5	8.7	8.6	0.5	12.3
	Real Returns					15.0	3.3	4.5	3.3	3.6	0.9	-14.9	6.7	6.6	-1.5	7.3
	GDP Growth					4.9	5.4	4.1	4.3	4.9	5.1	2.1	-6.9	-2.3	0.0	-2.0
Estonia	Nominal Returns					2.6	7.6	9.9	13.1	7.2	6.2	-24.3	12.7	9.7	-4.5	9.5
	Real Returns					0.0	6.5	4.7	9.2	2.0	-3.1	-29.2	14.6	4.1	-8.3	5.5
	GDP Growth					7.9	7.8	6.3	8.9	10.1	7.5	-4.2	-14.1	3.3	8.3	3.2
Lithuania	Nominal Returns							11.6	10.6	5.3	3.8	-19.7	17.3	8.8	-2.9	11.2
	Real Returns							8.5	7.4	0.8	-4.1	-26.0	15.9	5.0	-6.1	8.0
	GDP Growth							7.4	7.8	7.8	9.8	2.9	-14.8	1.5	5.9	3.6
Slovakia	Nominal Returns								4.0	4.6	4.6	-6.7	0.6	1.2	1.4	2.9
	Real Returns								0.3	1.1	2.2	-9.8	0.5	-0.1	-3.0	-0.5
	GDP Growth								6.7	8.3	10.5	5.8	-4.9	4.4	3.2	2.0
Macedonia	Nominal Returns									6.7	8.8	-9.9	14.5	7.2	1.9	8.5
	Real Returns									3.5	2.0	-13.4	16.4	4.1	-0.8	3.6
	GDP Growth									5.0	6.2	5.0	-0.9	2.9	2.9	-0.3
Romania	Nominal Returns											10.6	17.6	15.0	3.2	10.5
	Real Returns											4.1	12.3	6.6	0.1	5.3
	GDP Growth											7.3	-6.6	-1.1	2.2	0.3

Notes: Inflation and GDP data has been taken from the IMF World Economic Database, April 2013 edition. Data on nominal returns of second pillar pension funds have been taken from official national authorities' websites: <http://www.knf.gov.pl> (Poland), <http://www.fktk.lv> (Latvia), <http://www.fsc.bg> (Bulgaria), <http://www.hanfa.hr> (Croatia), <http://www.pensionikeskus.ee> (Estonia), <http://www.lb.lt> (Lithuania), <http://www.adss.sk> (Slovakia), <http://www.mapas.gov.mk> (FYR Macedonia), <http://www.csspp.ro> (Romania). Data for Hungary in the 1998-2007 period is based on Impavido and Rocha (2006, Table 11) and World Bank (2009), while the data for 2008-2010 period is taken from the official website <http://www.pszaf.hu>

National supervisory authorities in Latvia, Bulgaria, Croatia, Estonia and Lithuania produce aggregate returns data for the entire second pillar industry. National supervisory authorities in Hungary, Poland, Slovakia, Macedonia and Romania do not provide aggregate returns data for the entire second pillar industry on a regular basis, but only data pertaining to individual second pillar pension funds. Aggregate second pillar returns for these countries represent authors calculations based on weighted average returns of individual pension funds. Only private pension funds that were in operation both at the beginning and at the end of the year have been included in aggregate second pillar rate of return calculations in the referenced year. In cases where second pillar was introduced in mid-year the relevant returns data in the inception year have been annualized.

APPENDIX C
INCORRECT WORLD BANK DATA ON EASTERN EUROPE

World Bank (2009, Table 2, p. 7) and Holzmann (2009, slide 12) state that prior to the global financial crisis, second pillar returns had been higher than GDP growth in all Eastern European countries except Latvia.

Table 7

Rate of Return of Pension Funds since Inception till End 2007
(in real terms and as differential over GDP growth)

Country	Year of Inception	Real Rate of Return	RoR over GDP Growth
Bulgaria	2002	3.2	0.5
Estonia	2002	4.9	0.6
Hungary	1998	2.6	0.6
Latvia	2001	-3.5	-0.3
Lithuania	2004	5.7	0.7
Poland	1999	8.9	2.2
Slovakia	2005	0.9	0.1

Sources: World Bank staff using data from national sources.

Original World Bank Table, excerpt from World Bank (2009, p. 7) and Holzmann (2009, slide 12).

However, when we compare World Bank real rate of return estimates from Table 7 above with official GDP growth statistics from IMF WEO database (April 2014 edition) we can easily see that, with the exception of Poland, second pillar real rates of return have been tangibly lower (not higher!) than GDP growth in all Eastern European countries until the end of 2007. This sharply contrasts with the final results published in World Bank (2009) and Holzmann (2009).

Table 8

**Rate of Return of Pension Funds since Inception Until end-2007
Versus the GDP Growth in the Same Period
(percent)**

Country	Year of Inception	Real Rate of return (World Bank Data)	GDP Growth (IMF Data)	RoR over GDP Growth
Bulgaria	2002	3,2	6,3	-3,1
Estonia	2002	4,9	8,1	-3,2
Hungary	1998	2,6	3,6	-1,0
Latvia	2001	-3,5	9,5	-13,0
Lithuania	2004	5,7	8,3	-2,6
Poland	1999	8,9	4,1	4,8
Slovakia	2005	0,9	8,7	-7,8

Furthermore, World Bank real rate of return estimates are themselves plagued with upwardly biased calculation errors (Altiparmakov, 2014). Thus, the World Bank should consider publishing data correction and explanation notice to clarify obvious data problems in its recent publications on Eastern Europe.

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