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**ANOTHER LOOK AT CAUSES AND CONSEQUENCES OF
PENSION PRIVATIZATION REFORM REVERSALS IN
EASTERN EUROPE**

Nikola Altiparmakov
(Fiscal Council, Serbia)

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Another Look at Causes and Consequences of Pension Privatization Reform Reversals in Eastern Europe

Abstract: In order for ‘carve-out’ pension privatization to improve long-term sustainability the transition should not be predominantly debt-financed, and private pension funds should deliver (net) rates of return tangibly higher than GDP growth. We show that none of the reforming countries in Eastern Europe was successful in fulfilling these two preconditions, even before the emergence of the global financial crisis. While existing literature mostly describes a recent wave of reform reversals as politically driven short-sighted policies that deteriorate long-term sustainability, we argue the contrary: that pension privatization structural deficiencies and disappointing performance allow reversals to improve the short-term stance without necessarily undermining long-term pension sustainability. We conclude that unless political consensus exists to support the multi-decade fiscal austerity required to finance pension privatization, reform adjustments and reversals can be a rational alternative to maintaining economically suboptimal or politically unstable pension systems in some Eastern European countries.

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1. Introduction

As they transitioned from centrally planned to free-market economies, many Eastern European countries followed the lead of Chile and several other Latin American countries in implementing a radical ‘carve-out’ pension privatization around the turn of the millennium. This reform approach entails (partial) termination of existing public Pay-As-You-Go (PAYG) pension schemes and the introduction of mandatory private individual pension accounts in their place, the so-called ‘second pension pillar’ in World Bank terminology. The carve-out approach is in contrast to the add-on approach typical in most advanced economies, where private funds develop in the form of (voluntary) supplementary funds on top of publicly provided pension benefits. The professional public at the time was strongly divided regarding the feasibility of carve-out pension privatization. The World Bank (1994) favored this approach and argued that it would not only enable higher pensions for future beneficiaries but would also increase national savings and accelerate economic growth. Its opponents challenged most of the expected reform benefits (Beattie and McGillivray 1995; Barr 2000; Stiglitz and Orszag 2001).

Available empirical evidence suggests that the anticipated macroeconomic benefits such as increased savings, accelerated growth, and expanded contributor coverage “have remained largely unmet” (World Bank Independent Evaluation Group 2006, p.xvi; Arenas de Mesa and Mesa-Lago 2006; Altiparmakov and Nedeljkovic 2016). In this paper we use initial reform experiences from Eastern Europe to investigate privatization effects on future pension levels. In order for carve-out pension privatization to benefit future beneficiaries and increase their pensions, two preconditions have to be met: 1) the transition should not be predominantly debt-financed with most of the second pillar assets being reinvested back into domestic government bonds, and 2) second pillar net rates of return should be tangibly higher than GDP growth. We show that no Eastern European country was successful in fulfilling these preconditions, even before the emergence of the global financial crisis. This evidence sheds new light on the causes and consequences of recent reform reversals in a number of countries.¹

Possible causes of reform reversal put forward in the literature include the emergence of fiscal crisis, initial neglect of transitional deficits, and unaccommodating EU fiscal rules (Drahokoupil and Domonkos 2012; Price and Rudolph 2013; Casey, 2014; Kay 2014; Schwarz and Arias 2014). Fultz (2012), on the other hand, argues that these developments should be considered triggers but not root causes of reversals. In this paper we also suggest that reversals should be seen in a broader context that recognizes the inability of privatized systems to improve long-term pension sustainability compared to existing PAYG systems. We thus argue that the disappointing privatization performance makes it possible for reform reversals to improve the short-term fiscal stance without deteriorating long-term sustainability, provided reversals are not accompanied by unsustainable PAYG changes that increase public benefits beyond the rate of GDP growth.

¹ We use ‘reform reversals’ in this article, since this term has become widespread after being introduced by the World Bank. We make use of this term without imputing any implicit negative value judgments.

This paper is organized as follows. Section 2 describes the theoretical background to and features of pension privatization in Eastern Europe. The performance of the initial reforms is presented in Section 3. Section 4 argues that the identification of the underlying causes of reform reversal needs to explicitly recognize the inability of second pension pillars to outperform existing PAYG systems' internal rates of return. Due to this failure, reform reversals do not necessarily need to deteriorate long-term sustainability, as elaborated in Section 5. Section 6 concludes that carefully designed reversals in some countries could be a preferable option to maintaining economically suboptimal or politically unstable pension system designs throughout the rest of the 21st century.

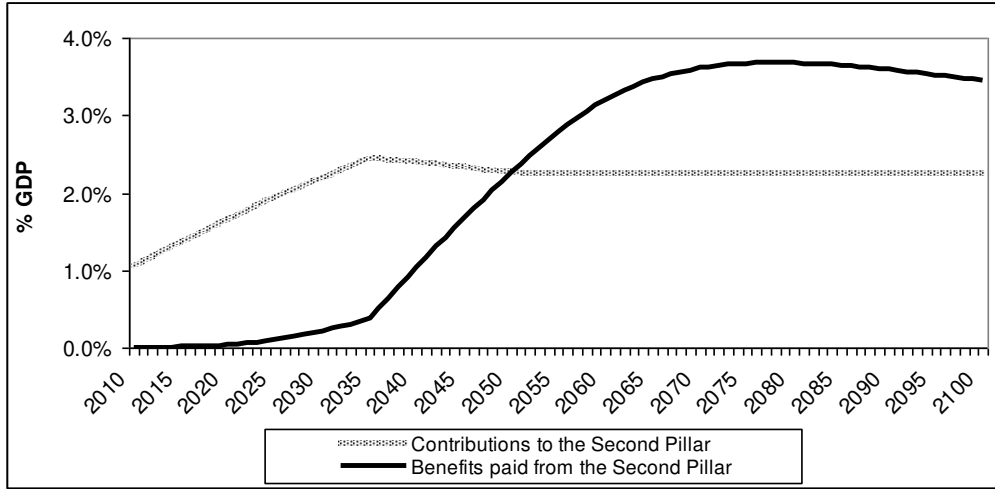
2. Pension Privatization in Eastern Europe

In most of the advanced economies of North America and Western Europe, private pension funds are typically developed in an 'add-on' manner to supplement (modest) publicly provided pension benefits. By contrast, private pension funds in Latin America and Eastern Europe were introduced in a 'carve-out' manner to partially or completely substitute existing public PAYG systems. The carve-out approach creates a large revenue shortfall in the public PAYG system, the so-called transitional deficit, which has to be financed over an extended period until existing accrued PAYG liabilities are serviced in full.

At the time pension privatization was being implemented, 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 (Price and Rudolph 2013, p.61). If this were the case, the dynamics of a typical Eastern European pension privatization might look similar to Figure 1a, assuming that all workers younger than 40 years of age at inception participated in the second pillar and older workers remained solely in the public PAYG system. Initially, the extent of diverted contributions far outweighs pension payments from the second pillar, creating a transition cost burden on public finances. After bearing 40 years of transition costs, pension payments from the second pillar become higher than the contributions paid into it and privatization starts to improve pension system sustainability. Private funds fully mature in 70 to 80 years, when they start employing their full potential to improve long-term pension sustainability.

Depending on the prescribed cut-off age for older participants remaining in the public PAYG system, the transition period could be somewhat shorter (~35 years) or somewhat longer (~50 years). If the prescribed cut-off age at the start of pension privatization is higher, then more contributors will switch to the second pillar, thus increasing the transition costs in early years and making the transition period shorter. If only young workers initially participate in the second pillar transition, costs will be lower in the early years but the transition period will last longer. The total transition cost would be equal in net present value terms since it is predetermined by the extent of the accrued PAYG liabilities at the start of pension privatization.

Figure 1a – Second pillar projected inflows and outflows, $r = g + 1.5\%$

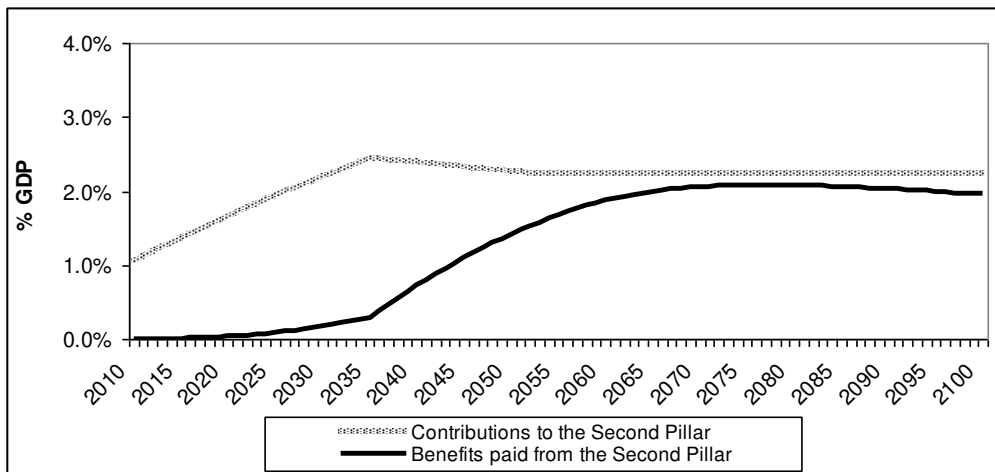


Source: Altiparmakov (2011).

Notes: The simulations assume that pension privatization starts in 2010, second pillar contributions equal to 7% of wages are diverted from the PAYG system, and all workers younger than 40 years at inception participate in the second pillar. Simulations in Figures 1a and 1b are based on Serbian demographics. Virtually identical dynamics would be obtained if data for any other European country were used.

If a hypothetical country depicted in Figure 1a decided to implement a reform reversal and terminate the second pension pillar 10 or 15 years after the start of pension privatization – as Hungary did, for example – it would improve its short-term fiscal position by not having to finance the transition costs. However, this short-term improvement would come at the cost of deteriorating the long-term fiscal sustainability of the national pension system. This is the case highlighted by World Bank economists (Price and Rudolph 2013, p.2; Schwarz and Arias 2014, p.145). It should nonetheless be noted that if the second pillar returns happen to be lower than GDP growth, as depicted in Figure 1b, then implementing a reform reversal improves the short-term fiscal position without deteriorating long-term pension sustainability. This is a straightforward result from the Samuelson-Aaron Theorem, which we describe and apply in the next section.

Figure 1b – Second pillar projected inflows and outflows, $r = g - 0.5\%$



Source: Altiparmakov 2011.

Following the lead of Chile, many Latin American countries opted for the complete pension privatization approach (Arenas De Mesa and Mesa-Lago, 2006). By contrast, in order to reduce transition costs, all countries in Eastern Europe opted for partial privatization and scaling down of existing Bismarck-style PAYG systems, whereby one-quarter to one-third of existing PAYG contributions was diverted to the newly created system of mandatory private pension funds based on full funding and individual accounts.

Table 1 – Dynamics of pension privatization in Eastern Europe

Country	Pillar 2 Inception	Pillar 2 contribution rate, % 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 that partially relied on the add-on approach: contributions totaled 6% of gross wages with 4% being diverted from the PAYG system and 2% representing additional contributions for workers participating in the second pillar. Lithuania implemented a quasi-mandatory second pillar, whereby workers were allowed to voluntarily opt-in but could not opt-out afterwards.

After its inception, many reforming countries progressively increased the second pillar contribution rate, thus increasing the revenue shortfall in the public PAYG system. This trend lasted until 2008 when the global economic crisis triggered the 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% of GDP in Estonia, 1.2% of GDP in Slovakia, 1.4% of GDP in Hungary, 1.7% of GDP in Poland, and 2.3% of GDP in Latvia (Egert 2012). Faced with severely strained public finances, several reforming countries – Poland, Latvia, Lithuania, and Slovakia – decided to permanently reduce the extent of the pension contributions diverted to the second pillar (Price and Rudolph 2013, Table 1.6). Poland has also forbidden second pillar funds to invest money back into government bonds, to prevent the emergence of circular transactions which imitate PAYG financing and increase public debt (Naczyk 2016). Hungary decided to completely terminate the second pension pillar in 2011 (Simonovits 2011).

3. Performance of mandatory private pension funds in Eastern Europe

The Samuelson-Aaron Theorem explains that in a balanced PAYG system, contributors earn a rate of return equal to GDP growth, g , while contributors in funded systems earn the rate of return r on 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 the rate of return on accumulated assets (r) is higher than the GDP growth (g).² In practice, lawmakers can prescribe a legal PAYG rate of return that is higher than GDP growth, which would drive the PAYG system out of balance and (eventually) cause the public pension scheme to become unsustainable. Thus, when deciding whether to restore pension sustainability by implementing parametric PAYG changes to bring the legal rate of return in line with GDP growth, or to implement pension privatization, the (expected) relationship between g and r is of vital importance.

A major motivation for implementing pension privatization was precisely the fact that (gross) returns on capital are, in general, tangibly higher than GDP growth (Abel et al. 1989). However, Orszag and Stiglitz (2001) and Barr (2000) stress that this fact cannot a priori justify pension privatization due to 1) the high operating costs of mandatory private funds, which can significantly reduce contributors' net rates-of-return, 2) the need for appropriate risk-adjustment regarding the increased uncertainty associated with capital returns, and 3) the need to honor accrued PAYG liabilities and finance the associated transition costs. Pension privatization could nonetheless be justified if the $(r - g)$ spread is significant and social preferences of existing generations highly value the welfare of future generations.

3.1 Realized rates of return

Whitehouse (2001) explains that summarizing different fees that private funds charge in a single number in order to calculate the net rate of return is a complex task. In order to avoid conceptual ambiguities, in this paper we will work exclusively with gross rates of return net of annual asset management fees only. National statistics show that in 2012 annual asset management fees ranged from 1.5% of assets in Latvia and Estonia, 1% in Lithuania, 0.6% in FYR Macedonia and Romania, 0.45% in Poland and Croatia, to 0.3% in Slovakia. It should be remembered that asset fees reduce retirement savings exponentially; thus a 1% asset fee reduces retirement savings by about 20% over a working career (Whitehouse 2001).

The data on gross returns net of annual management fees is unambiguous, comparable, and readily available in all Eastern European countries. Nonetheless, it should be noticed

² It should be noted that the Samuelson-Aaron criterion is directly applicable only in the case of add-on pension privatization, such as in Australia in 1992. 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). Furthermore, the original Samuelson-Aaron theorem refers to the growth rate of covered wages, which can be approximated with GDP growth for all practical purposes. For the sake of simplicity we will ignore that the theorem holds exactly only for populations in a steady state (Settergren and Mikula 2005).

that this data, which could be termed semi-net returns, necessarily overstates true pension fund performance since it does not account for contribution fees charged to plan members when making regular monthly contributions to the fund (Fultz 2012, p.12). Specifically, in 2012 contribution fees ranged from 5% in Bulgaria to 4% in FYR Macedonia, 3.5% in Poland, 2.5% in Romania, 1.5% in Lithuania, 1% in Slovakia, and 0.8% in Croatia.

Table 2 – Initial performance of the second pension pillar in Eastern Europe, in %

Country	Second Pillar Inception	Since inception until end-2007			Since inception until end-2014			Standard deviation	
		2 nd pillar	GDP	Diff	2 nd pillar	GDP	Diff	2 nd pillar	GDP
Hungary	Jan 1998	2.9	3.6	-0.8	1.6	2.4	-0.7	9.3	3.1
Poland	Jan 1999	8.2	4.1	4.1	5.1	3.7	1.4	9.0	1.8
Latvia	Jul 2001	-2.4	9.0	-11.4	-0.9	3.7	-4.6	8.8	8.1
Bulgaria	Apr 2002	4.3	6.1	-1.8	1.2	3.1	-2.0	9.5	3.9
Croatia	May 2002	4.5	4.8	-0.4	3.4	1.2	2.2	7.3	4.1
Estonia	Jul 2002	3.4	8.1	-4.8	0.3	3.2	-2.9	11.7	7.5
Lithuania	Jun 2004	2.4	8.3	-5.9	1.0	3.1	-2.2	12.2	7.4
Slovakia	Apr 2005	0.9	8.7	-7.7	-0.6	3.7	-4.3	3.7	4.7
Macedonia	Feb 2006	2.7	5.6	-2.9	2.8	2.9	-0.1	8.8	2.7
Romania	May 2008	-	-	-	6.4	0.8	5.6	4.4	5.1
AVERAGE		2.9	6.5	-3.5	2.0	2.8	-0.8	8.5	4.8

Notes: Author's calculations based on official data from national supervisory authorities. Second pillar returns measure gross returns net of annual management fees only. Average performance is based on geometric averaging. Data for Hungary concludes with 2010.

Data for the first 15 years of pension privatization in Eastern Europe reveals very disappointing performance. Second pillar returns in most countries were lower than GDP growth, even before the global financial crisis. Second pillar returns have not only been low relative to (rather impressive) GDP growth, but also in absolute values. Real returns since the inception of the second pillar were negative in Latvia and Slovakia, barely positive in Estonia, and around a meager 1% in Lithuania and Bulgaria. This compares unfavorably with modern pension reserve funds in Canada or Norway, which have been posting real returns in the 3% to 4% range over the last 15 to 20 years.

Both countries offering single portfolio funds, such as Bulgaria or FYR Macedonia, and countries with multi-fund second pillars offering multiple risk-return portfolios, such as Estonia, Latvia, Lithuania, and Slovakia, experienced disappointing returns. Nor did liberal provisions for investing assets abroad seem to help Baltic countries outperform their Central European counterparts that prescribed more stringent regulations for investment abroad. While realized returns were much lower than expected, the volatility of second pillar returns was, in line with expectations, tangibly higher than GDP volatility.³ This echoes the fact that returns on capital are more volatile and risky, thus requiring a downward risk adjustment when compared against less volatile PAYG returns (Geanakoplos et al. 1998; Orszag and Stiglitz 2001).

³ The low volatility of returns in Romania and Slovakia are exceptions with Romanian second pillar being introduced after the emergence of the global financial crisis and Slovakian pension funds implementing overly conservative investment portfolios since 2009 (with negative real rates of return).

3.2 Emergence of disguised-PAYG financing

The Polish, Romanian, and Croatian second pillars appear to be positive exceptions, with returns being both tangibly higher than GDP growth and relatively high in absolute terms. Due to this seemingly good returns performance, Chłoń-Domińczak (2015, slide 32) concludes that “actual investment performance cannot serve as a justification for pension reversal” in Poland. However, it should be noticed that domestic government bonds accounted for around 60% of second pillar assets in Croatia and Romania at the end of 2012. The same was true in FYR Macedonia and also in Poland and Hungary before the reform reversals. Thus, the majority of second pillar assets in these countries are being (re)invested in domestic government bonds, which were issued in the first place to finance the carve-out transitional deficits. These circular transactions, which we refer to as ‘disguised-PAYG financing’, reduce participants’ welfare due to hefty second pillar operational expenses, compared to traditional PAYG financing. In particular, based on earlier cross-country data, we can see that the (unweighted) average contribution fee in Eastern Europe stood at 2% in 2012 while the average management fee was 0.8%, which implies an overall reduction in retirement saving of about 20% over the working career (Whitehouse 2001).

Polish workers could have earned a notional rate of return in their first pillar NDC accounts that was about 0.5 percentage points higher than they had been earning in their second pillar DC accounts.⁴ Furthermore, disguised-PAYG financing also increases public debt, as we elaborate in Section 4. The problems of disguised-PAYG financing and low second pillar returns that are below the GDP growth rate have already been documented in the literature: for example, Impavido and Rocha (2006) in the case of Hungary. Nonetheless, these were mostly considered as isolated cases or exceptions to the general trend of impressive second pillar performance. In fact, recent World Bank studies, such as World Bank (2009) and Schwarz and Arias (2014), present upwardly biased data on the performance of second pillar funds and incorrectly state that second pillars in most Eastern European countries outperformed GDP growth prior to the global financial crisis, when in fact quite the opposite was the case (Altiparmakov 2015).

Emerging evidence of disappointing second pillar performance has led many Eastern European countries to amend investment regulations and consider more liberal limits to investment abroad, expansion of multi-funds offering alternative risk-return portfolios, and the introduction of life-cycle investment. However, from the national point of view, the most important aspect to be addressed is the presence of suboptimal disguised-PAYG financing. It should be noted that disguised-PAYG financing is not suboptimal only in countries running an NDC first pension pillar: it applies to all instances of carve-out

⁴ NDC stands for Notional Defined Contribution – a PAYG scheme that mirrors the functioning of private fully funded defined contribution (DC) pension funds, whereby workers annual contributions are credited a ‘notional’ interest rate equal to the realized rate of GDP growth. At retirement, workers ‘notional’ accounts are transformed into pension streams using standard actuarial calculations based on current mortality data and the relevant discount rate.

pension privatization, since NDC systems, point systems, and traditional defined-benefit systems are basically equivalent forms of PAYG financing (Whitehouse 2006).⁵

4. EU Fiscal Rules and Causes of Reform Reversal

Most of the explanations of reform reversal put forward in the literature emphasize the importance of the global financial crisis. Kay (2014) notes that political actors facing a fiscal crisis and seizing pension fund assets face the same incentive structure as their predecessors that (ab)used PAYG systems for political gain by realizing immediate fiscal gains and postponing the costs to be borne by future generations. In fact, political incentives for reform reversal are stronger nowadays than they were for the shortsighted expansion of PAYG benefits in the past. Due to disappointing second pillar performance, political actors in Eastern Europe could realize immediate fiscal gains without necessarily creating fiscal costs to be borne by future generations.

From an economic point of view, Schwarz and Arias (2014, p.145) conclude that reform reversals address “the short-term [fiscal] problem at the cost of significantly worsening the long-term fiscal situation, reducing the future pension of individuals, or a combination of both”. However, we have seen in Section 3 that second pillar performance has thus far been inferior to PAYG financing in all reforming countries. If this poor past performance is extrapolated into the future, it could be argued that reversals are welfare-improving. In particular, it is very hard on welfare grounds to challenge Polish reform reversal, which has reduced operating expenses by replacing expensive disguised-PAYG financing with traditional NDC PAYG financing. Disappointing second pillar performance has thus created both political and economic incentives for implementing (partial) reform reversals.

Besides fiscal distress, the asymmetrical treatment of implicit pension debt and explicit public debt within the European Union (EU) Stability and Growth Pact has been suggested as another driver of reform reversals (Casey 2014; Schwarz and Arias 2014). It should be noted that the asymmetrical treatment is entirely justified, due both to theoretical (Franco 1995) and practical (Cuevas et al. 2008) considerations that suggest implicit pension debt is more junior and more easily manageable than public debt. Nonetheless, in practice EU fiscal regulations did provide some additional incentives for reform reversal. Eastern European governments had initially understated and neglected the issue of transitional deficits during the preparatory stage of pension privatization (Drahokoupil and Domonkos 2012). This gave rise to a predominantly debt-financed transition in many countries and lead to the conversion of accrued implicit pension debt into explicit public debt. Since this conversion was mostly ignored in the existing EU fiscal regulations, reforming countries were able to reduce the fiscal deficit and more easily comply with the Stability and Growth Pact provisions by implementing some form of reform reversal.

⁵ The ‘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 by appropriate austerity measures to cover transitional deficits, then long-term pension sustainability will be improved only if second pillar returns are higher than both GDP growth and the cost of the government borrowing that finances transitional deficits.

However, it should be stressed that EU regulations did not penalize reforming countries for implementing carve-out pension privatization per se, but for failing to implement accompanying austerity measures to finance transitional deficits. Because Maastricht criteria are based on the gross debt concept, EU fiscal rules do not differentiate between countries with a Bismarckian tradition of predominantly unfunded pension liabilities, such as Austria and Germany, and countries with a Beveridge tradition of large private-funded pension pillars, such as Denmark and the United Kingdom. EU rules are thus not detrimental to fiscally prudent development of private-funded pension pillars, which is the case in Beveridge countries where private funds mostly developed in an add-on manner and were not accompanied by transitional deficits.

The Estonian example should be highlighted when analyzing the effect of EU fiscal rules on reform reversals. Price and Rudolph (2013, p.36) point to Estonia as one of the rare countries that successfully implemented the austerity measures required to finance pension privatization and thus precluded the dominance of a debt-financed transition, such as emerged in Hungary and other countries. Faced with fiscal turmoil in 2009, Estonia did scale back the extent of its second pillar contributions in order to comply with the Stability and Growth Pact. However, unlike the permanent second pillar reductions in other countries, the Estonian downscaling was only temporary and second pillar contributions were restored to their original level after the fiscal crisis receded in 2012. Thus, in cases where second pillars were introduced in a fiscally prudent manner, such as Estonia, EU fiscal rules might have created incentives for temporary reductions during the crisis, but not for the permanent reductions that we have witnessed in many reforming countries.

Groundbreaking carve-out pension privatization in Chile was accompanied by strict and long-lasting austerity measures that produced a surplus of 8.5% of GDP in the non-pension part of the public sector over the 1981-2004 period (Arenas De Mesa and Mesa-Lago 2006). Other reforming countries were mostly unsuccessful in implementing appropriate austerity measures to support pension privatization, “resulting to a large extent in 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).

The absence of long-lasting austerity measures can undermine pension privatization fiscal and political sustainability over the medium- to long-term. Table 3 presents the effects on budget deficit and public debt of a pension privatization that diverts 7 percentage points of pension contributions to the second pillar, with 45% of the lost PAYG revenues being covered by austerity measures and the remaining 55% being debt-financed. We assume that the real rate of return on government bonds issued to finance the transition is equal to the rate of economic growth, while (net) equity returns are assumed to be 1.5 p.p. higher than GDP growth. These assumptions imply that second pillar portfolios are roughly equally invested in government bonds and equities over the first 50 years of operation.

In the initial years the incremental effect on budget deficit is driven by the extent of diverted contributions, which reaches maximum 25 years after the start of pension

privatization, when the entire workforce is covered by the second pillar (remembering the modeling assumption that only workers younger than 40 years at inception enter the second pillar). Deficit increase due to interest expenses is modest in the early years but becomes sizeable in the later decades, as debt-financed pension privatization accumulates significant public debt.

Table 3. Simulated effects of 55% debt-financed pension privatization

Years after privatization	Incremental effect on debt (% GDP)	Incremental effect on deficit (% GDP)		
		Total effect on deficit	Diverted contributions	Interest expense
5	3.4%	0.8%	0.7%	0.1%
10	7.5%	1.1%	0.9%	0.2%
15	12.5%	1.4%	1.1%	0.3%
20	18.0%	1.6%	1.2%	0.4%
25	23.9%	1.9%	1.4%	0.6%
30	29.4%	2.1%	1.4%	0.7%
35	33.5%	2.1%	1.3%	0.8%
40	36.2%	2.2%	1.3%	0.9%
45	37.8%	2.2%	1.3%	0.9%
50	38.5%	2.2%	1.3%	1.0%

Source: Author's calculations using Serbian demographic projections.

Note: The transition period in Table 3 lasts about 47 years, compared to the 40 years of transition depicted in Figure 1. The reason is that overall second pillar returns in Figure 1 are assumed to be 1.5 p.p. higher than GDP growth, while the second pillar returns in Table 3 are only about 0.7 p.p. higher than GDP growth due to second pillar portfolios being roughly equally invested in equities and lower-yielding government bonds.

By the end of the transition period, 45 to 50 years after inception, public debt will have increased by nearly 40% and fiscal deficit by more than 2% of GDP. Debt-financed privatization would thus consume around two-thirds of the public debt and fiscal deficit limits prescribed by the Maastricht criteria. In light of this, the recent economic crisis should be seen as a catalyst rather than the root cause of reversals in Hungary and Poland. In fact, we can reasonably expect reversals and second pillar downsizing to remain on the policy agenda in other countries as well, most notably in those countries resorting to debt-financed transitions, such as Croatia, FYR Macedonia, and Romania.

We conclude that the EU Stability and Growth Pact provisions represent just one factor that contributed to incentives for reversing pension privatizations. If reforming countries had implemented appropriate austerity measures and introduced the second pillar in a fiscally prudent manner, as Estonia did for example, pension privatization would not be (permanently) penalized under EU fiscal rules. It is the lack of adequate austerity measures that should be highlighted as the driving force behind recent second pillar scaling-down in Slovakia, Latvia, Lithuania, and Poland. Disappointing second pillar performance made it possible for reform reversal in Hungary to improve the short-term fiscal situation without necessarily deteriorating long-term sustainability. The Polish example illustrates that debt-financed transition creates economically inefficient circular government debt transactions that reduce participants' welfare and increase public debt.

These structural deficiencies, in their own right, have contributed to reform reversals in several non-EU countries over the years. In particular, large operating costs, debt-financed transition, and fiscal distress contributed to the reform reversal in Argentina, which first reduced the second pillar contribution rate in 2001 and then terminated the second pillar completely in 2008 (Azra 2008; Mesa-Lago 2012). Bolivia and Kazakhstan did not face an immediate fiscal crisis like Argentina, but second pillars in both of these countries were plagued with circular disguised-PAYG transactions, whereby most second pillar assets were being (re)invested in government bonds. This contributed to governments deciding to nationalize the second pillar in Bolivia (2010) and Kazakhstan (2013) and to switch to public administration of individual retirement accounts in order to save on administrative costs (Social Security Administration 2013; Mesa-Lago 2012).

Finally, we note that beyond the economic reasoning analyzed in this paper, the literature also puts forward ideational change as a potential explanation for reform reversal. In particular, Orenstein (2011, 2013) argues that the defeat of pension privatization efforts in the United States in 2005, together with re-reforms and expansion of public pension provision in Chile in 2008, led governments worldwide to reconsider the costs and benefits of pension privatization. This coincided with the emergence of the global financial crisis, which undermined confidence in liberal reforms in general, while the World Bank stance on promoting pension privatization became more cautious (Orenstein 2013). Although exploring possible ideational causes of reform reversal is beyond the scope of this article, we note that these important international developments need to be placed in the context of the complex and diverse domestic political economy dynamics in different countries (Naczyk and Domonkos 2015). Furthermore, World Bank involvement deserves more elaborate research, since Altiparmakov (2015) shows that World Bank studies published over the 2009-2014 period have been presenting upwardly biased data on actual second pillar performance in Eastern Europe, which could have affected reform reversal discussions in some countries.

5. Consequences of Reform Reversal

Existing literature suggests that reform reversal will likely burden future generations (Schwarz and Arias 2014; Price and Rudolph 2013; Egert 2012). We argue that this is not necessarily the case. Reform reversal could actually improve pension system efficiency in some Eastern European countries. We need to differentiate between several (non-exclusive) approaches to reform reversal: 1) the Polish type of partial reversal aimed at eliminating disguised-PAYG financing, 2) partial or complete reduction in the second pillar contribution rate, and 3) moving from mandatory to voluntary second pillar participation.

5.1 *Second pillar scaling-down*

Pension privatization in Hungary, Poland, Croatia, FYR Macedonia, and Romania has been predominantly debt-financed, with around 60% of second pillar assets being (re)invested in domestic government bonds. Poland decided to scale down the second pillar, eliminate these circular transactions, and replace them with traditional NDC PAYG financing, in order to reduce its considerable operating costs. Specifically, during the first decade of operation, second pillar annual management fees averaged around 0.5% in Poland, and contribution fees stood at around 7% of contributions until they were legally capped at 3.5% in 2009 (Naczyk 2016).

This type of a reform reversal can hardly be expected to burden future generations. In fact, this could be considered a welfare-improving change, since the elimination of second pillar management fees could be used to increase beneficiaries' pensions (if the NDC rate of return is appropriately increased), improve workers' remuneration (if the pension contribution rate is appropriately decreased), or improve long-term pension sustainability (if neither benefits are increased nor contribution rate decreased). Thus, other countries resorting to debt-financed reform would be well advised to study the Polish experience and consider implementing similar measures.

Latvia, Lithuania, and Slovakia have also permanently reduced the extent of the PAYG contributions diverted to the second pillar, while Bulgaria canceled the increase in the second pillar contribution rate (from 5 to 7 p.p.) that was legislated for 2017. Unlike in Poland, in these countries downsized second pillars are not forbidden to (re)invest in government bonds, since in all of these countries the disguised-PAYG financing problem was insignificant. Nonetheless, we have seen that second pillar rates of return in all these countries had been below the GDP growth rate even before the global crisis. Unless second pillar performance is to significantly improve on that observed to date, it can hardly be claimed that "reversals and reductions of second pillars in the region are likely to reduce the expected pensions for individuals" (Price and Rudolph 2013, p.72). Improvements would need to be particularly significant in Latvia and Slovakia, where second pillars are posting negative real rates of return that cannot possibly deliver the adequate pension levels that were initially anticipated. Without this major performance improvement, Latvia's decision to transfer funds from the second pillar with negative returns into first pillar NDC accounts with positive returns appears rational in both the

short- and long-term. Thus, reform reversals in these countries will not necessarily impose additional fiscal pressure on future generations, provided they are not accompanied by fiscally unsustainable expansion of PAYG benefits.

Finally, when analyzing the consequences of the most radical reform reversal, in Hungary, it should be remembered that the Hungarian second pillar was plagued by disguised-PAYG financing, high operating fees, returns lower than GDP growth, and the inability of private markets to efficiently organize the payout phase for the initial generations of retirees (Simonovits 2011, Mesa-Lago 2012). It could be asked whether a less radical, Polish type of partial reform reversal, aimed at eliminating disguised-PAYG financing, would have been a more appropriate approach in Hungary. From the standpoint of efficient pension system design, we can propose a couple of potential arguments in favor of a complete reversal. First, this approach avoids dealing with a downsized, next-to-meaningless second pillar that would likely be plagued with efficiency concerns (Section 5.3). Secondly, complete reform reversal eliminates the political risk and policy uncertainty that have surrounded second pillars in Eastern Europe since the emergence of the global financial crisis (Naczyk and Domonkos 2015). Overall, we conclude that disappointing pension privatization performance does not unambiguously support claims that the second pillar closure in Hungary was “the wrong answer” (Price and Rudolph 2013, p.2). However, it is imperative that Hungary carefully monitors the long-term sustainability of its public defined benefit PAYG system to ensure that excessive fiscal burdens are not imposed on future generations of contributors.

5.2 Voluntary second pillar participation

During the course of re-reforms, Slovakia, Poland, and Bulgaria have given workers the option to (eventually) transfer their second pillar assets to the state and return wholly to the public PAYG system. Although the modalities differ somewhat, the underlying driver seems to be a political compromise between recovering lost PAYG revenues to reduce transitional deficits and avoiding the radical nationalization approach employed in Hungary. However, allowing workers to choose between private and public pension provision is unusual in developed countries. The United Kingdom and Japan are rare exceptions where workers are given this option but under fundamentally different circumstances: when public earnings-related schemes were being established in these two countries, workers that were already covered by private schemes were allowed to opt-out from the public scheme in cases where existing occupational plans provided more generous benefits (Carpetta 2007). Unlike workers in the United Kingdom and Japan, who were able to make a well-informed, rational choice between public and private provision, workers facing reform reversals in Eastern Europe are unlikely to be in a position to make a rational welfare-maximizing decision, which will likely further contribute to pension policy uncertainty in these countries.

In particular, economic literature and empirical evidence suggest that an average citizen can hardly be expected to make a rational, welfare-maximizing decision in this case not just because of lack of financial literacy but also because the outcome would be to a large extent endogenously determined by the political process and the behavior of other

participants. If many participants voluntarily enter the second pension pillar, only to eventually realize they would have been better off in just the PAYG system, political pressure will mount to allow them to return to the public system. Political tensions, deriving from the same generation of workers being split between participating in the second pillar and remaining in just the PAYG system, have already been witnessed in Croatia (World Bank 2011), Slovakia (IPE 2015b), and Hungary (Simonovits 2011). In all three countries many members of the first generations of retirees that voluntarily opted to join the second pillar would be entitled to higher benefits had they remained just in the PAYG system. Furthermore, workers participating in the second pillar would have an incentive to invest their funds in the most risky assets and then return to the PAYG system if those risky investments were to fail.

Initial outcomes seem to support these concerns about the inability of rational welfare-maximization. While most Slovakian and Bulgarian workers remained in the second pillar, more than 80% of Polish workers switched back to the PAYG system, despite the fact that Polish second pillar returns were much higher than in Slovakia or Bulgaria. In fact, the Polish government was the most engaged in incentivizing workers to return to the PAYG system, by forbidding private pension funds to advertise and making returning to the PAYG system the default option unless workers actively applied to stay in the second pillar (IPE, 2015a). By contrast, the default option for workers in Slovakia and Bulgaria was to remain in the second pillar unless they actively applied to return to the PAYG system. This outcome reinforces the well-known result from behavioral economics, that most workers do not actively plan or take appropriate action on their own to secure adequate retirement provision.

Efficient pension system design should thus preclude the option for participants to choose whether they want to participate in the second pillar or remain just in the PAYG system. Instead, governments need to objectively and critically estimate the long-term costs and possible benefits of carve-out pension privatization. Unless there is broad social support for taking on significant multi-decade transition costs, both in good times and bad times, countries would be advised to consider alternative reform approaches in order to avoid policy uncertainty and likely future reform reversals. The earlier example of Estonia shows that it is possible to gather broad social support for the necessary, painful austerity measures, and to maintain such support despite below-par performance, as Estonian second pillar real returns stood at only 0.3% per annum over the 2002-2014 period, with pension funds charging one of the highest management fees in Eastern Europe, approaching 1.5% of assets in 2012.

5.3 Alternative reform approaches

Lack of political support for the strict and long-lasting austerity measures required to preclude the emergence of a debt-financed transition severely undermines the feasibility of carve-out pension privatization. Drahekoupil and Domonkos (2012) conclude that a modest second pillar, financed by about 3 percentage points diverted from the first pillar, seems to be the maximum that is politically feasible in East-Central European countries. Such a modest second pillar would, however, represent a poor diversification of

retirement provision and would likely be inefficient due to high (fixed) management costs. Under reasonable assumptions, workers should save (at least) 20% of their wages during their working career in order to afford adequate consumption smoothing in retirement. In order to provide a meaningful diversification of retirement income, the second pillar contribution rate should thus stand at around 10%. In countries where the second pillar developed in an add-on manner, such as Australia, Hong Kong, Denmark, and Switzerland, the contribution rate stands at around 10% or more (James 2005). A very small second pillar with a contribution rate of only 3 percentage points provides rather poor diversification of retirement income compared to 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 existing second pillars are downsized. This would further reduce the likelihood of reversing the disappointing performance of the initial 15 years of second pillar operations.

In overcoming the lack of political support for large scale pension pre-funding on the one hand, and the economies of scale inherent in individual account systems on the another, Eastern European countries with a good public governance record could consider establishing a public pension reserve fund in line with best international practice, such as those in Canada or Norway. This approach would enable the minimization of management costs even at a relatively low level of annual funding commitment, and would also solve the second pillar payout-phase problems. In Poland, this could be an appealing alternative to maintaining a very small voluntary second pillar, with contributions equaling only 2.9% of wages after the reform reversal; especially since Poland already has a Demographic Reserve Fund whose operations could be modernized and expanded. This would effectively transform the Polish NDC PAYG system into a partially funded NDC system, as in Sweden. Highly indebted countries such as Hungary and Croatia could, instead of pre-funding, consider repaying and reducing public debt, which represents an alternative form of intergenerational transfer from current to future generations (Diamond 1965).

Regardless of whether Eastern European countries decide to maintain or reverse second pension pillars, long-term pension sustainability will inevitably have to be ensured by resorting to parametric PAYG reforms, such as increasing the (effective) retirement age and/or reducing the system replacement rate. In this respect, pension reform in Eastern Europe will be no different from in Western European countries such as Germany, Austria, or Portugal, with similar Bismarck-style pension systems that decided against carve-out pension privatization in the first place.

6. Concluding Remarks

We have argued that the recent economic crisis was merely a catalyst that highlighted unresolved pension privatization structural deficiencies. Disappointing pension privatization performance, lack of political commitment to implementing adequate austerity measures to avoid a debt-financed transition, inability of private markets to efficiently organize the second pillar payout phase, a gloomy fiscal outlook, and EU fiscal regulations can be expected to give rise to further reform reversal considerations in the coming years. Policymakers are thus well advised to study carefully the causes and possible consequences of the recent wave of reform reversals.

Reforming countries resorting to predominantly debt-financed transition, such as Croatia, FYR Macedonia, and Romania, should consider establishing broad political support for implementing the necessary austerity measures. If such support cannot be established, these countries should consider the Polish approach, scaling down the second pillar and replacing the disguised-PAYG financing mechanisms with traditional (NDC) PAYG financing. Countries where second pillar returns have been barely positive or even negative in real terms, such as Latvia, Slovakia, Bulgaria, and Lithuania, should either make sure they have broad social and political support for maintaining the second pillar, despite its disappointing performance and failure to meet initial reform expectations, or should start considering alternative reform adjustments. In any case, countries should avoid presenting workers with a choice between second pillar and public PAYG systems, as this approach is economically and politically suboptimal. It is dominated by the reform approach implemented in many Western European countries, which combines cost-containment parametric PAYG reforms with the introduction of supplementary pension savings in an add-on manner (on a voluntary basis).

Eastern European reformers embarked on the radical carve-out pension privatization route hoping to increase returns, stimulate national saving, and accelerate economic growth in order to avoid, or limit, the need for unpopular cost-containment parametric reforms. However, disappointing pension privatization performance suggests that reforming countries will still have to rely on parametric PAYG reforms, very much like their Western European counterparts that opted against carve-out privatization. This means that both economic and political incentives for reform reversal will continue to be present in the coming years. The Estonian example shows that, despite disappointing performance, a second pillar can be sustainable if it enjoys broad political and social support. If this support is lacking, however, countries should act sooner rather than later in addressing potential sources of political instability or economic inefficiency.

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