THE EU FISCAL FRAMEWORK AND PENSION REFORM[1]

Summary

- **The NMS were among the earliest pension reformers in Europe.** Pressures on their public pensions emerged in the 1990s, reflecting inter alia falling labor force participation and high unemployment during transition that rendered the inherited pension systems insolvent.
- **As a result, public pension systems in many NMS are technically sustainable, but often at the cost of low replacement rates.** In spite of severe demographic pressures, average public pension spending is projected to remain at a level of about 10 percent of GDP in 2060, broadly unchanged from today. The replacement rate, however, is often projected to fall sharply, giving rise to doubts about whether the public, defined-benefit, pay-as-you-go (PAYG) pension systems are socially sustainable.
- **Along with parametric reforms to PAYG systems, most NMS introduced private, mandatory, pre-funded pension ("Pillar II") schemes with individual accounts,** in order to supplement retirement incomes. In Hungary and Poland, as well as Estonia and the Slovak Republic, second pillar contributions exceeded 1 percent of GDP per year in the mid-2000s.
- **The performance of Pillar II schemes has been mixed.** In particular, there is no systematic evidence that the introduction of Pillar II schemes increased in national savings—which, ultimately, is required to generate higher pension income—as contributions were diverted from PAYG systems and the resulting fiscal impact was accommodated with higher deficits. Returns were generally modest, while exceeding basic benchmarks. Management fees remain elevated, even though they have come down somewhat.
- **In the wake of the 2008/09 financial crisis, many countries unwound their second pillars** and redirected contributions to the budget, as governments struggled with severe fiscal pressures. The European Union's fiscal framework under the stability and growth pact as arguably been a factor in the reversal: deficit ceilings were defined mostly in headline terms, granting only partial allowances for Pillar II transition costs. This provided an incentive—especially for countries with large second pillars—to reverse the reform. By contrast, neither returns on Pillar II assets nor management fees appear to have been a systematic factor in the reversal.
- **While recent reforms render the EC's fiscal framework more flexible** toward Pillar II systems, it continues to fall short of neutrality toward a country's choice of pension regime.

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A. Public Pension Systems in New Member States: The Broad Picture

1. The EU New Member States were among the earliest pension system reformers in Europe. Pressures on the their pay-as-you-go (PAYG) pension systems arose early during the economic transition of the 1990s, as labor participation declined sharply, unemployment rose, the informal economy grew, and high evasion complicated the collection of social security contributions. Reforms to reduce these pressures included changing pension formulas to control the increase in benefits—for example by linking pension increases to inflation rather than wage growth—increasing retirement ages, and reducing incentives for early retirement (see Appendix I).

2. However, **demographic change continues to put pressure on PAYG systems.** Fertility rates in the NMS-6 have fallen by an average of 30 percent during 1990-2010. Life expectancy has also increased since 1990, and is projected to continue trending upward (Figure 1). Moreover, some countries, including Bulgaria, Romania, and Poland, experienced substantial outmigration in the past decade, mostly of the younger generation. Overall by 2060 the working age population is projected to fall to 60–80 percent of its 2010 level. Combined with longer life expectancy, this will result in a sharp increase in the dependency ratio: in 2060, an old person (65+) is projected to be supported by 1½ workers, compared to four workers in 2010.

Figure 1. Selected European Countries: Key Demographic Data

Sources: Eurostat; United Nation; and IMF staff calculations.

3. Even with the sharp increase in the dependency ratio, most NMS-6 pension systems appear technically sustainable if already reforms are implemented as foreseen.[2] The reforms are projected to keep average pension spending at about 11 percent of GDP, only a percentage point more than today—which compares to public pension spending of almost 23 percent of GDP if reforms are not implemented (Table 1). Most notably, legislated reforms in Poland are projected to yield an annual reduction of 25 percent of GDP in pension spending (European Commission, 2012). Still, in some other countries, pension expenditures are projected to increase, yielding rising pension deficits in their PAYG systems (Table 2).

Table 1. Pension Spending Projections[1/]

	With reforms						Without reforms					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
	(in percent of GDP)											
Bulgaria	9.9	9.2	9.6	10.1	11.1	11.1	9.9	11.9	14.2	16.6	20.0	21.2
Croatia 2/	6.0	4.4	3.3	2.6	2.5	3.3	6.0	5.5	5.8	5.6	6.3	7.0
Czech Republic	9.1	8.7	8.9	9.7	11.0	11.8	9.1	11.9	13.7	15.9	19.2	21.0
Estonia	8.9	7.7	8.2	8.1	8.0	7.7	8.9	9.9	11.3	12.4	14.8	16.8
Latvia	9.7	7.3	6.5	6.3	6.4	5.9	9.7	10.4	11.9	13.8	17.4	21.0
Lithuania	8.6	7.6	8.4	9.6	10.8	12.1	8.6	9.0	11.2	12.9	14.4	17.2
Hungary	11.9	10.5	9.3	9.8	11.2	12.4	11.9	13.6	14.3	17.2	21.3	24.4
Poland	11.8	10.9	10.9	10.3	10.0	9.6	11.8	15.4	19.9	22.8	29.7	35.5
Romania	9.8	9.2	10.3	11.6	12.8	13.5	9.8	11.6	13.9	18.8	24.6	28.8
Slovakia	8.0	8.6	9.5	10.6	12.2	13.2	8.0	10.3	13.1	16.1	21.3	25.1

Source: Fund staff calculations based on data in the EU Aging Report (2012), 2012 EU Fiscal Sustainability Report, and information provided by the World Bank on Croatia.

1. "With reforms" block refer to projected spending under currently legislated reforms, and correspond broadly to the baseline projection in the EU Ageing Report. "Without reforms" block refer to pension spending that would occur if pension parameters were kept constant at 2010 levels without considering changes from legislated reforms.

2/ For Croatia, numbers are for old age related pension spending only and do not include other pension payments from the PAYG scheme.

4. At the same time, most reforms imply a steep cut in pension benefits, calling into question the social—and therefore political—sustainability of PAYG systems. For some NMS-6 PAYG systems, the replacement rate of income in retirement is projected to fall below 20 percent, compared to around 40 percent today.[3] In fact, some countries have already reversed recent reforms, in response to political pressures that increased when benefit reductions started taking effect (Schwarz and Arias, 2014).

[2] Most data for this section are drawn from the European Commission's Ageing Report of 2012. Croatian data are from the World Bank (Croatia was not yet an EU member in 2012 and is thus not covered by the 2012 Ageing Report). The base year is 2010. The next Ageing Report is expected to be published in May 2015.

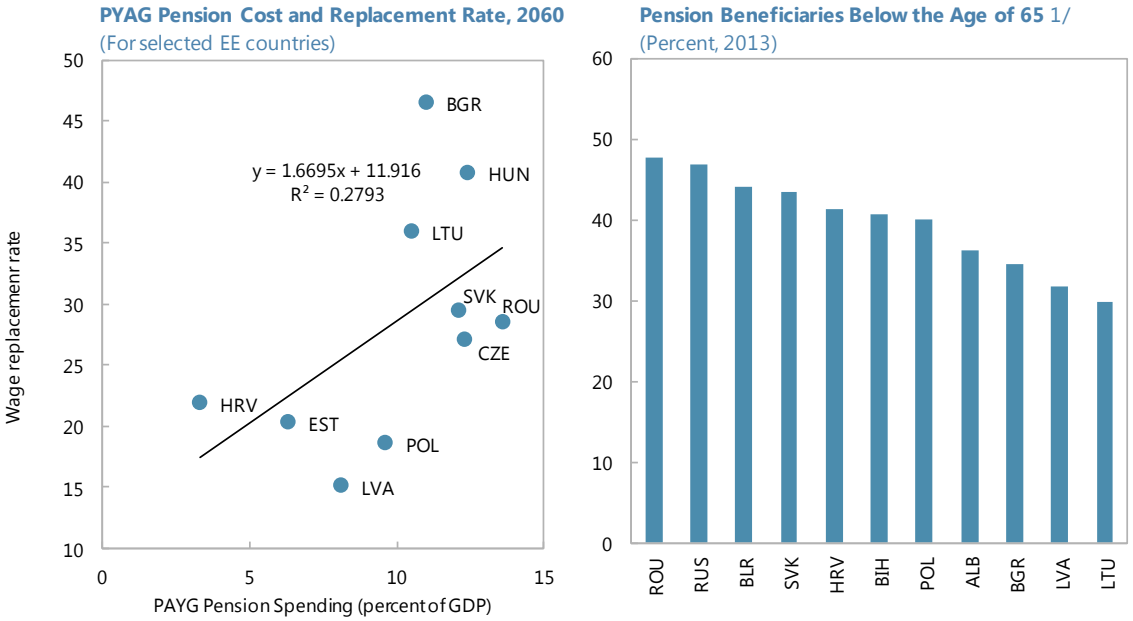
[3] Different tax treatment on pension and non-pension income will affect income replacement rate net of taxes. For some countries (e.g. Hungary), the replacement rate can be higher because pensions are not taxed.

Table 2. Net Present Value of Pension Deficits

	Discount rate=0			Discount rate=1			Discount rate=2		
	2010-2030	2031-2060	2010-2060	2010-2030	2031-2060	2010-2060	2010-2030	2031-2060	2010-2060
	(in percent of GDP)								
Bulgaria	34	79	114	31	55	86	29	38	67
Croatia 1/	-38	-105	-144	-34	-74	-108	-30	-53	-83
Czech Rep.	7	65	72	6	44	50	6	30	36
Estonia	16	-13	4	15	-9	7	14	-6	8
Latvia	51	66	116	46	47	93	42	34	77
Lithuania	14	61	75	13	41	55	12	29	41
Hungary	39	87	126	36	59	95	33	41	74
Poland	76	48	124	70	35	105	65	25	90
Romania	27	10	37	25	7	33	24	5	29
Slovakia	77	176	253	69	122	191	63	86	149
Average	30	47	78	28	33	61	26	23	49

Source: EC (2012), World Bank, and Fund staff calculation.
1/ For Croatia, only old age related pension spending is included. PAYG balance including other pension payments will be smaller.

EE Pension Cost, Replacement Rate, and Young Pensioners



Source: EU 2012 Ageing Report, World Bank.
1/ Beneficiaries include old age, disability, survivor. For some countries only old age and disability beneficieries included. In some countries orphans are included.

5. As a result, further steps are called for to improve both fiscal and social sustainability of NMS pension systems. Two areas with significant reform potential are aligning the mandatory retirement age with longevity, and reducing incentives for early retirement. Several NMS-6 countries continue to have relatively generous early retirement incentives and special pension regimes for privileged groups. As a result, the share of relatively young beneficiaries remains high. The gains from embracing these reforms could be used to further improve fiscal sustainability, increase the social sustainability of replacement rates, or a combination of the two.

B. Pillar II Pension Schemes: History, Rationale, Performance

6. A second component of NMS pension reforms—accompanying the parametric changes to the PAYG systems mentioned above—has often been the introduction of private, mandatory, pre-funded, "pillar II" pensions. Pillar II-type systems require contributions to be channeled into privately held accounts, with accumulated savings to be paid out upon retirement. Chile was the first country to introduce such a system in the early 1980s. Its example inspired many countries in Eastern Europe to follow. Hungary (1998) and Poland (1999) led reform efforts in the region, followed by Bulgaria, Croatia (both 2002), and Romania (2007) (Appendix II). The exception among the NMS-6 is the Czech Republic that, instead of making contributions mandatory, strengthened tax incentives for accumulating savings on a voluntary basis.

Conceptual Issues: Why a Second Pension Pillar?

7. A key objective of second pension pillars is to generate additional income out of which supplementary pensions can be paid. In the NMS, second pillars were often designed to compensate for the pension income losses from parametric PAYG reforms. At the aggregate level, this objective can be achieved only if national savings increase. Further, for higher savings to materialize, the increase in private savings generated by the establishment of a second pillar must *not* be offset by simultaneous public sector dis-saving. To avoid this, the contributions to a Pillar II plan should *not* be accompanied by decreases in contributions to the PAYG scheme. Alternatively, the resulting budgetary shortfall needs to be compensated with fiscal savings elsewhere.

8. By the time of their introduction, several other benefits associated with second pillar programs were touted.

- ***Risk diversification.*** With a second pillar, pension benefits are paid not only from the wage base (PAYG) but also from returns on capital (Pillar II). Further, second pillars can allow for better diversified portfolios by enabling investments in foreign assets, especially when domestic capital markets are thin.

- ***Ownership, labor market participation, and capital market development.*** Second pillar schemes can link pension income transparently to contributions, thus enhancing ownership and awareness on the part of contributors of the need to save for retirement income. They may also provide incentives for higher labor market participation—or for shifting from the informal to the formal labor market—and for capital market development, by developing longer-term financial instruments.

Pillar II Pension Systems in the NMS: How Have They Performed?

9. This section reviews some performance indicators for Pillar II systems in the NMS. As a general caveat, such assessments are not straightforward. For once, it can be difficult to identify clear-cut metrics of success: while the capacity to pay higher pensions will ultimately require higher national savings, for example, the national savings rate is affected by many factors other than second pillars. This renders it problematic to link changes in savings (or the lack thereof) directly to the success of reform efforts. Other performance indicators are not fully comparable across countries and time periods: lack of asset diversification or elevated administrative fees, for example—features noted below—are fairly common among young pension funds, such as those of the NMS. However, these indicators tend to improve as funds mature.

10. With these caveats**, there is no systematic evidence that Pillar II systems have increased savings** (Figure 2).

- ***National savings*** as a share of GDP do not reveal a clear pattern around the dates of Pillar II introduction—only Croatia, Estonia, Lithuania, Poland and Slovakia show a sizeable increase. This observation is consistent with governments offsetting the increase in private savings triggered by the establishment of Pillar II funds with higher fiscal deficits.[4]
- ***Social security contributions.*** As for more direct evidence of public dis-saving, upon Pillar II introduction PAYG contributions were typically cut to the same degree as Pillar II contributions were levied, to avoid excessive burdens on wage earners—especially as at the time of Pillar II introduction many economies were still weak from transition—and prevent higher tax wedges.[5]
- ***Investments in government bonds.*** Further, large holdings of government bonds by many Pillar II funds suggest that governments covered transition cost largely with debt financing rather than fiscal consolidation—tapping the very Pillar II funds for financing that they had created. Reflecting this pattern, Pillar II investments in government securities are more than twice as high in the NMS than for private pension funds in other OECD countries.[6]

11. Prior to the 2008/09 financial crisis, gross investment returns on Pillar II funds were generally modest, even though, barring a few exceptions, they exceeded real returns from investing in domestic long-term government bonds. Once the crisis struck, pre-crisis gains were eliminated. As Pillar II funds have a long-term investment horizon, comparing their returns against

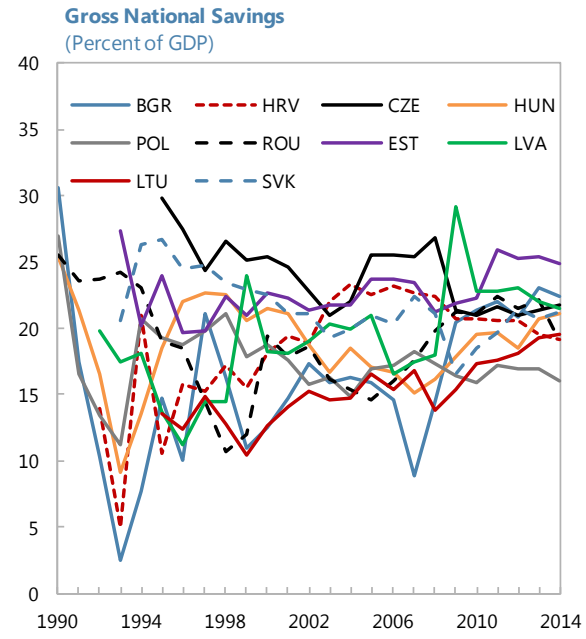
[4] Pillar II reforms were sometimes hoped to be self-financing, through increased labor force participation and, as a consequence, higher tax revenues. In the case of Poland, labor force participation rates were expected to increase by some 20 percentage points with Pillar II pension introduction (Epstein and Velculescu, 2011). In the event, participation remained broadly constant in the 2000s.

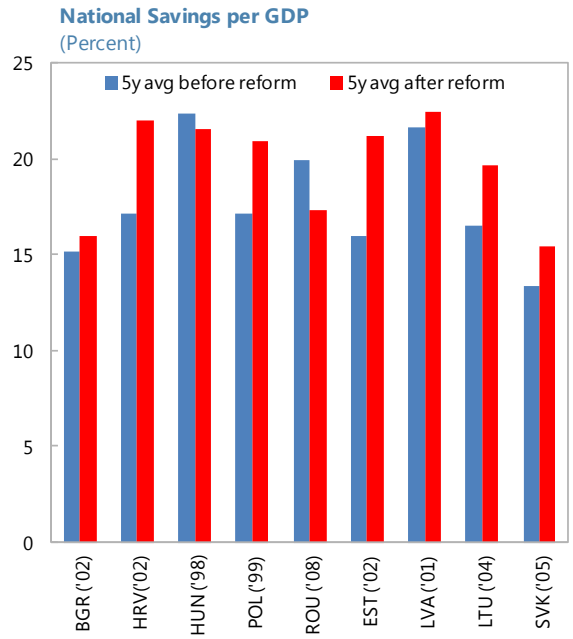
[5] Exceptions are Estonia and Lithuania, where the government matched additional individual contributions with additional contributions from the state (from the outset in Estonia, only recently in Lithuania).

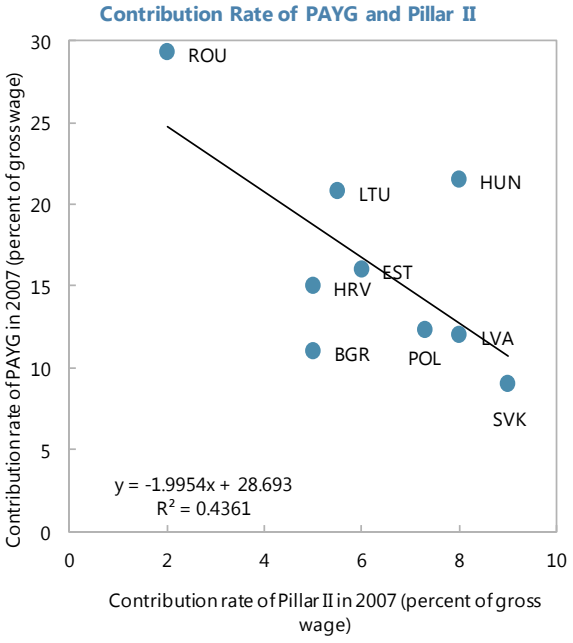
[6] Note that the OECD comparator group includes not only second pillar funds but also voluntary and occupational retirement funds.

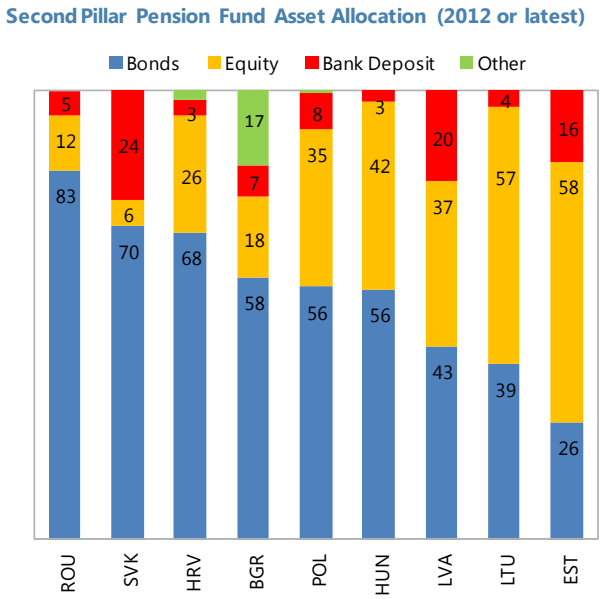
short-term benchmarks is problematic, however, especially if funds invest into riskier assets such as equity. As a result, it is too early to assess to what extent the crisis losses can be recouped.

Figure 2. Second Pension Pillars and National Savings









Sources: WEO; Haver; national authorities; EC 2012 Ageing Report; WB (2014) and IMF staff calculations.

12. *Asset management fees* charged by Pillar II funds have come down, but they remain high. Total fees for Pillar II funds have fallen from an average of more than 2 percent of assets in 2006 to about 1¼ percent in 2011. In part, this may reflect the realization of economies of scale as Pillar II funds grow larger, although it may also relate to political pressures that funds faced in the wake of the financial crisis. Still, operating expenses—one element featuring in the fee structure—remain more than 50 percent higher than in other OECD countries (Figure 3).[7]

13. Only a few countries with second pillars have taken advantage of the opportunity to *diversify* away from domestic risk. As shown above, Pillar II portfolios contain a high share of government securities. The Baltic countries—that have low levels of public debt—are the main exception. In many countries, Pillar II regulations enforce a high share of risk-free assets and a minimum domestic investment requirement, creating a bias toward government securities, bank deposits, and cash.

C. The EU Fiscal Framework and Pillar II Reversals

The EU Fiscal Framework and Pillar II Pensions Prior to the Crisis

14. The treatment of second pillars within the EU fiscal framework assumed practical relevance only in 2004, when the first NMS joined the EU. Among the older EU members, only Sweden had a second pillar. Further, prior to 2004, second pension pillars were recorded as part of the public sector when calculating government deficits and debt. In 2004, however, Eurostat reclassified Pillar II to within the private sector. This gave rise to higher recorded fiscal deficits, as Pillar II contributions counted no longer as fiscal revenue a phenomenon after called the "transition costs" of setting up a second pillar.

15. Starting with a 2005 reform of the Stability and Growth Pact (SGP), the EU fiscal framework began to partially accommodate Pillar II transition costs (Table 3).

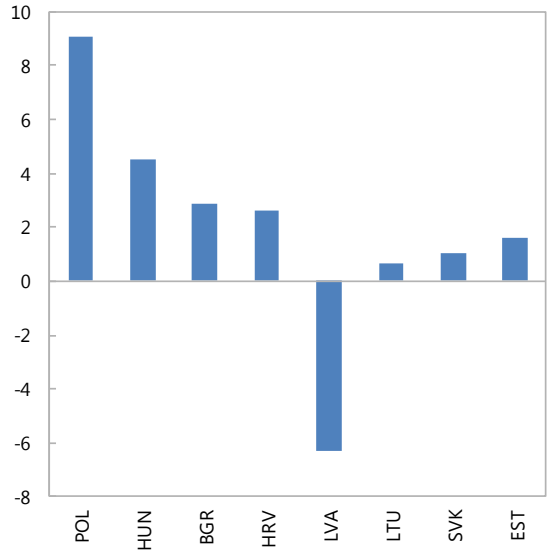
- A formal *request to fully exempt transition cost was turned down* in 2005. The request had been brought forward by countries that had already put in place a second pillar at the time, which included Hungary, Poland, and Sweden.

- However, the European Council agreed on ***limited exemptions in the context of the Excessive Deficit Procedure*** (EDP). Specifically, it allowed adjustments to the deficit for a maximum of five years—on a degressive linear scale—as long as the deficit remained "close to the reference value".

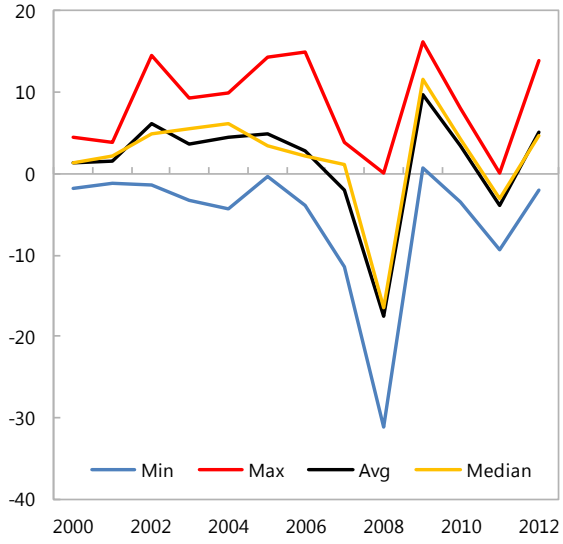
[7] As a rule of thumb, one percent of assets spent in fees and other charges reduces life-time pension earnings by about 20 percent, see Barr (2000).

Figure 3. Pillar II Pension Funds: Returns and Fees

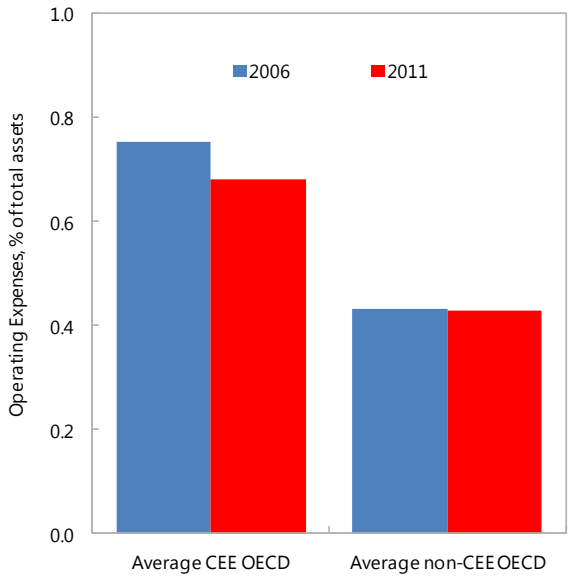
Weighted Average Returns, 2004-07 1/
(Percent, real)



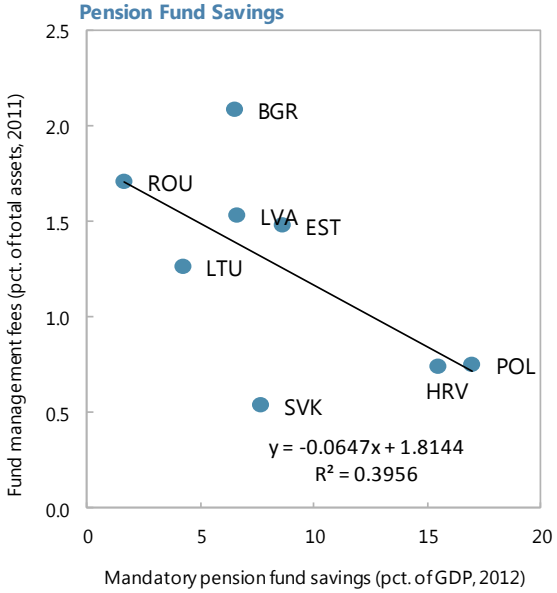
Annual Gross Real Returns on Pillar II Pension Investments in NMS+4 2/ (Percent)



Operating Expenses of Pillar II in CEE OECD 3/



Pension Fund Management Fees and Mandatory Pension Fund Savings



Sources: WEO, OECD and IMF staff calculations.
1/ 2005-07 for Slovak Rep.
2/Excl. Czech Republic.
3/ CEE OECD include Czech Republic, Estonia, Hungary, Poland and Slovak Republic.

Table 3. Treatment of Net Cost of Systemic Pension Reforms in the EU Fiscal Framework (the Stability and Growth Pact (SGP))

				2005 reform of the Pact	2011 reform of the Pact
Preventive arm of the pact	MTO revision			Can be partially reflected through the MTO^{ILD} indicator, but subject to peer review and endorsement by the EPC.*	Can be partially reflected through the MTO^{ILD} indicator, but subject to peer review and endorsement by the EPC.*
	Adjustment path toward the MTO			N/A	Can be taken into account when defining the path or allowing a temporary deviation from the path with two conditions: 1) a safety margin to ensure the respect of the 3% of GDP reference value for the deficit is guaranteed; and 2) the budgetary position is expected to return to the MTO within the period covered by the Stability or Convergence Program.
Corrective arm of the pact	Launch of EDP	Criteria/conditions for consideration	Government debt	No requirement	Does not exceed the Maastricht reference value
			Government deficit	1) Close to the Maastricht reference value; and 2)excess reflects the net cost of the reform.	1) Does not significantly exceed what can be considered close to the Maastrict reference value; and 2) Excess is explained by reform costs.
			Other criteria	Considered only over five years and in resgressive scale	Overall fiscal sustainability is maintained
	Aboragation of EDP		Government debt	No requirement	Does not exceed the Maastrict reference value
			Government deficit	1) Has declined substantially and continuoursly; and 2) Close to the Maastrict reference value.	1) Has declined substantially and continuoursly; and 2) Close to the Maastrict reference value.
			Other criteria	Considered only over five years and in resgressive scale	Overall fiscal sustainability is maintained
Assessment of compliance with the debt ceilings				N/A	N/A

* MTO is defined as the maximum among three components, MTO^{MB} (the "minimum benchmark" as agreed by the EFC), $MTO^{Euro/ERM2}$ (the Pact obligation for euro area Member States and Member States participating in ERM II to have an MTO not lower than –1% of GDP), and MTO^{ILD}. The component MTO^{ILD}, which has an ageing component in it, relates to explicit liabilities and a fraction of implicit liabilities. (Detailed description can be found in Chapter 3 of Part II of2013 Public Finance Report available at http://ec.europa.eu/economy_finance/publications/european_economy/2013/pdf/ee-2013-4.pdf

- As for the ***preventive arm of the SGP,*** net cost of systemic pension reforms with an impact on long term fiscal sustainability could be partially taken into account when determining a country's medium-term objective (MTO).

16. These exemptions were insufficient to eliminate disincentives for maintaining a second pillar, especially as regards the EDP. The ceiling for the deficit allowance remained unspecified, but a common understanding was that it would be at most ½ of a percent of GDP. This compares to average Pillar II transition costs of about one percent of GDP pre-crisis, with significantly higher fiscal burdens for countries with large second pillars, such as Poland and Hungary. Further, the exemption period was far shorter than the actual transition period during which a second pillar

creates net budgetary cost—this period can last 40–50 years—and there was no allowance under the debt criterion.

Pillar II Pensions Reversals: Why Did They Occur?

17. Several second pillar reforms were reversed following the 2008/09 crisis, although not in all countries the reversal has been permanent (Figure 4). As regards *temporary* reversals, the Baltic countries are currently in the process of or have finished restoring their Pillar II systems. Romania delayed somewhat the built-up of its second pillar. By contrast, Slovakia and Poland significantly reduced the size of their Pillar II schemes, with no declared intention for restoration, and Hungary eliminated its second pension pillar altogether. Disappointing financial performance and high private management fees were often cited as reasons for the reform reversals. The exception among the NMS-6 are Bulgaria and Croatia, both of which have maintained their second pillars throughout the crisis period, and without a major change in parameters.[8]

18. To gauge why countries unwound second pillar reforms, we correlate the size of the Pillar II reversal with characteristics of a country's Pillar II fund. The results have to be interpreted with some caution, given the small number of observations.[9]

19. With this caveat, **an important trigger for reversing Pillar II reforms appear to have been fiscal pressures, including the need to stay within—or return to—the EDP's deficit ceilings**.

- ***Countries with the largest second pillars—as measured by the Pillar II contribution rate—had the largest reform reversals.*** For them, the amount of contributions channeled into the second pillar was large, providing a strong incentive to divert second pillar contributions to the budget in order to reduce the headline fiscal deficit.

- ***By contrast, countries with smaller Pillar II schemes were generally able to maintain them,*** as these schemes imposed less of a fiscal burden. Pillar II funds with contribution rates of up to 5 percent—triggering a loss in fiscal revenue of ½-1 percent of GDP—did in general survive the financial crisis and its aftermath.

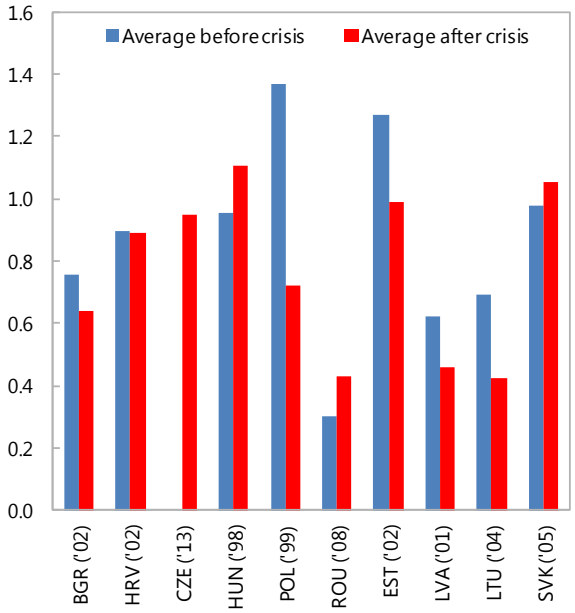
- As for the ***preventive arm of the SGP,*** net cost of systemic pension reforms with an impact on long term fiscal sustainability could be partially taken into account when determining a country's medium-term objective (MTO).

[8] Including Bulgaria which recently allowed participants in the second pillar to opt back into the PAYG system.

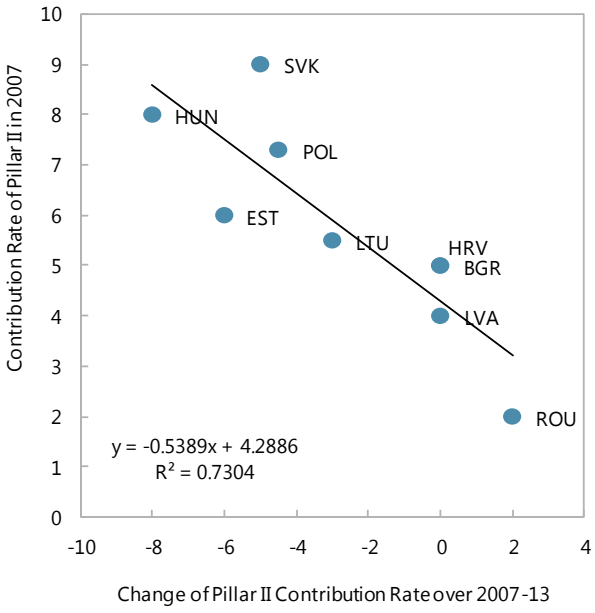
[9] Further, the small number of observations allows only for univariate analysis.

Figure 4. Pillar II Pension Reversals

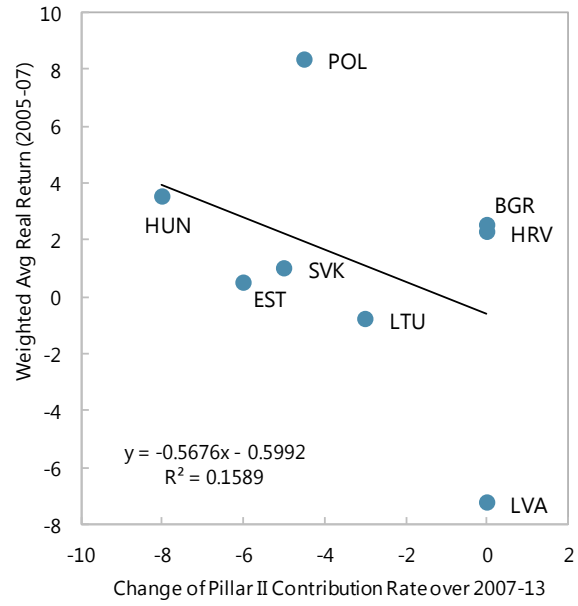
Budgetary Cost of Second Pension Pillars
(Percent of GDP)



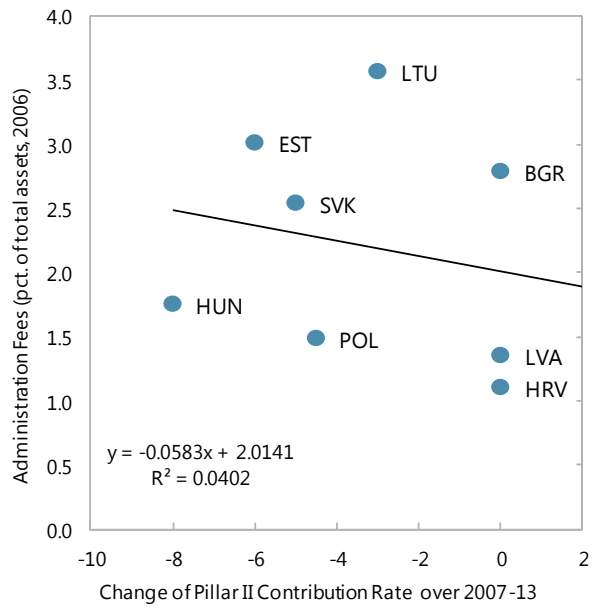
Reform Reversals and Pillar II Contribution Rates (in percent of gross wages)



Reform Reversals and Pillar II Asset Returns



Reform Reversals and Pillar II Fees



Sources: WB (2014) and staff calculations.

This said, the impact of the EU's fiscal framework on the reversal is difficult to disentangle from market pressures during crisis—Cuevas et al (2008) find that investors put a higher weight on explicit government debt than on implicit pension liabilities in their assessment of country creditworthiness.

20. There is no evidence that reform reversals were related to poor investment performance. There is even a negative correlation of pre-crisis returns with reform reversals—hence, if anything the Pillar II funds that were dissolved or cut back were relatively more profitable. Similarly, there is no significant relationship between the level of asset management fees and the extent of Pillar II reversals after 2008 for the countries under consideration.

The EU's Fiscal Framework Post-Crisis

21. In 2011, another SGP reform expanded the framework's flexibility vis-à-vis second pillar funds.

- ***Deficit exemption.*** The regressive scale for the deficit allowance under the EDP was eliminated—in other words, it was made permanent—but the allowance remains subject to tight approval restrictions. Further, the size of the exemption remains limited.

- ***MTOs.*** In addition, under the preventive arm of SGP, net cost of systemic pension reforms can now also be partially taken account in part when defining—or allowing a temporary deviation from—a country's *adjustment path* toward its MTO (and not just the MTO itself).

Further, in September 2014 the fiscal accounting framework ***ESA 2010*** entered into force. Under ESA 2010, lump-sum transfers of assets from the second pension pillar fund to the general government sector have no longer a direct impact on the general government budget balance, somewhat reducing the incentive to abolish Pillar II funds in the context of the EDP.[10]

22. While the reforms have increased the flexibility of the EU's fiscal framework, they remain short of a neutral treatment of different types of pension regimes. Shortcomings exist both in the framework's preventive (MTOs) and in the corrective arm (EDP):

- **Preventive arm**. Improvements in fiscal sustainability from pension reforms are only partially recognized in MTOs. In practice, there appears to be little relation between the existence of a second pillar fund and a country's MTO.

- **Corrective arm**. However, the larger deficiencies persist arguably in the corrective arm. In the context of the EDP, the adjustment to the deficit criterion for second pillars remains small and

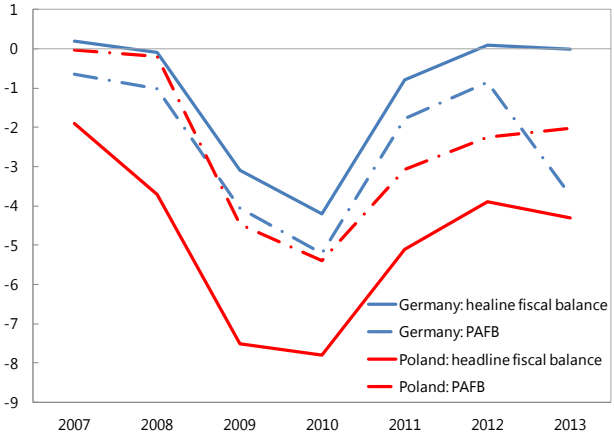
[10] It does not eliminate the incentive entirely, as (i) the increase in higher social security contributions from re-integrating the second pension pillar into the budget continues to lower the recorded fiscal deficit, (ii) pillar II asset transfers continue to reduce recorded government debt and, relatedly, (iii) interest savings as a result of debt reduction also continue to lower the recorded fiscal deficit.

subject to many conditions. No flexibility is allowed when assessing compliance with the debt ceilings. As a result, the current framework continues to discriminate against large second pension pillars. While ESA 2010 reduces incentives to dissolve Pillar II funds, disincentives to setting up or enlarging Pillar II funds remain.

- Frequent ad hoc ***changes to the fiscal framework,*** its complexity and the degree of discretion in its application trigger substantial policy uncertainty.

23. The gap between the EU's fiscal framework and a fiscally neutral treatment of a country's pension regime is illustrated by a comparison between Poland and Germany, using the concept of the pension-adjusted balance (PABF) developed by Soto et al. (2011) and applied using data from the EC's 2012 ageing report. While Germany's headline fiscal balance—that remains the basis for EDP assessments under the EU's fiscal framework—has been almost 4 percentage points stronger than Poland's in recent years, both countries' pension-adjusted balances were, on average, almost identical, reflecting cost-saving parametric reforms to Poland's PAYG system and the existence of its second pillar. Put differently, while Germany accumulated less explicit debt in this period, it accumulated more implicit debt than Poland. [11]

Poland vs. Germany: Headline vs. Pension Adjusted Fiscal Balance (PAFB) (Percent of GDP)



Sources: EC 2009 and 2012 Ageing Report; and IMF staff calculations.

D. Conclusions

24. Securing fiscally and socially sustainable pension systems remains a challenge. With currently legislated parameters, most NMS-6 PAYG systems will pay much lower pensions in the future, creating a risk of old-age poverty. Absent increases in the retirement age, such an outcome can be avoided only by accepting higher fiscal burdens or by increasing savings ahead of time in order to generate additional income out of which pensions can be paid. With countries emerging from the 2008/09 financial crisis, a renewed focus on long-term challenges is appropriate, including on strengthening, rather than reversing, the momentum of pension reform.

25. Pillar II reforms are one, but not the only, way of generating higher savings for retirement.

[11] While the EC uses some indicators of implicit liabilities in its fiscal analysis, these complementary indicators do not carry the same weight as the core assessment of compliance with fiscal rules.

- ***Countries that choose to maintain a second pillar*** should seek to strengthen the Pillar II fund's performance, including by encouraging more diversified investment portfolios, and by further reducing administrative costs.[12] Moreover, the transition costs of second pillars should at least in part be absorbed by the budget, which will require generating more fiscal space.

- ***Countries that choose to abolish second pillars need to cope with the cost of ageing in other ways***. This implies the need to improve fiscal performance and increase public savings, and strengthen incentives for participation in a third, voluntary pillar. A few countries in the region (the Czech Republic, Slovakia, Romania and Poland) have introduced such schemes in recent years. Still, and similar to second pillars, the design of voluntary pensions schemes should be accompanied by sufficient quality control and include the availability of simple savings products with low administrative costs (Barr, 2013). As mostly higher earners make use of voluntary schemes, generous tax breaks should be avoided.

- ***For all countries***, aligning the retirement age more closely with longevity and reducing incentives for early retirement is key to ease the trade-off between fiscal and social sustainability of pension systems.

26. There remains a case for rendering the EU's fiscal framework more neutral toward a country's choice of pension regime. While the reforms SGP reforms of 2011 have moved the framework some way in this direction, the discriminatory treatment of second pillars persists. Admittedly, full neutrality is difficult, as it would arguably require moving away from the headline deficit as the main assessment tool—which, in turn, has other drawbacks (for example, the headline deficit can be computed from observed data, while concepts like pension adjustment balance require parametric assumptions about discount rates, etc.). Still, such an effort is worthwhile to avoid discouraging countries from pre-funding ageing costs.

[12] Sweden, for example, centralizes the administration and maintenance of individual accounts to reduce costs, and has established a low-cost default fund to compete with other, more sophisticated investment schemes. Similarly, the U.S.'s Thrift Savings Plan, which is offered to civil servants in the U.S., provides civil servants a limited investment choice (currently five broadly based funds). The accounts are maintained centrally, and fund management is on a wholesale basis—that is, the fund manager knows only the total volume of resources to be managed, not the details of which worker owns how much.

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Appendix I. Pension Systems in NMS-6 and Recent Pension Reforms

New Member States Pension Systems–an Overview

The pension systems of the new member states (Bulgaria, Croatia, Czech Republic, Hungary, Poland, and Romania, collectively NMS-6) are similar: all NMS-6 provide the bulk of pension entitlements through statutory pay-as-you-go public pension (PAYG) systems, which generally cover old-age, sickness, disability, survivors', early retirement, and minimum pensions. The first five components are provided on an earnings-related basis, while minimum pensions are either means-tested or delivered as social assistance. Bulgaria, Croatia, the Czech Republic, Hungary, and Romania provide a defined-benefit (or similar) old-age pension. Poland has a notional defined-contribution system, which works on an actuarial basis. At retirement, an annuity is calculated by dividing the individual's account value by a divisor reflecting life expectancy at the date of retirement.

Over the last two decades, the NMS-6 added mandatory second pillars (or a third, voluntary pillar with state contributions and tax incentives in the case the Czech Republic). Contributions to these pillars are administrated by private pension managers.

NMS-6 policies concerning drivers of future old-age pension spending are also similar (see table below). All the member states apply pension benefit formulas in which full career earnings are taken as a reference to calculate pension entitlements. All contributions paid before retirement are indexed to wages (valorization)—Croatia incorporates prices into the formula as well. Wages, along with prices, are also used to index pension benefits.

In 2010, the statutory retirement age was less than 65 for female participants in all NMS-6 and male participants other than Polish and Croatian men. However, in all NMS-6 the statutory male retirement age will increase gradually to 65 or above by 2022. Moreover, the Czech Republic's benefit formula provides for a continuous increase in the retirement age. Available data on accrual rates—the annual pension earned through participation in the PAYG system—paint a mixed picture, with rates rising in Bulgaria and Hungary over the next 40 years, and falling rates in the Czech Republic.

NMS-6 pay-as-you-go (PAYG) pension schemes and key parameters

Country	Type	Earnings reference	Valorization variable	Benefit indexation variables	Statutory retirement age
BG	DB	Full career	Wages	Prices and wages	M=63; F=60
CR	PS	Full career 1/	Prices and wages	Prices and wages	M=65; F=60.3
CZ	DB	Full career	Wages	Prices and wages 3/	M=63.8; F=60.8
HU	DB	Full career 2/	Wages	Prices	M=62; F=62
PL	NDC	Full career	Wages	Prices and wages	M=65; F=60
RO	PS	Full career	Prices (and wages until 2030)	Prices (and wages until 2030)	M=64; F=59

Sources: Europen Commission; OECD; World Bank, and IMF staff
DB = Defined benefit; NDC = Notional defined contribution; PS = Point system
1/ For those who are in both PAYG and Pillar II systems, benefits for post-2002 years of service are based on a basic pension plus the second pillar annuity.
2/ Net pay from 2008, moving toward full career.
3/ Suspended in 2009.

Recent Pension Reforms

Bulgaria. Since 2012, the retirement age started to increase by 4 months per year until reaching 65 years of age for men (63 for women), and the required length of insurance started to increase by four months per year until reaching 40 years for men (37 for women). Pensions were indexed to CPI only and eligibility requirements for military and police pensions were tightened and contributions increased. In 2013, significant reform reversals were announced; including (i) a return to the "golden Swiss rule," that links pension increases to the average growth of insurable income and CPI inflation; and (ii) the gradual increase in the retirement age was halted until at least 2014.

Czech Republic. The reform adopted in 2011 increased the statutory retirement age, reduced disability pensions, curtailed the rate of progressivity in the assessment of contributions, and extended the insurance period required for accessing a full pension. These and other changes to the pay-as-you-go (PAYG) system have cut its long-term deficits from 4–5 percent of GDP to around 2 percent of GDP in 2040–60, and to less than 1 percent of GDP from 2070. The statutory retirement age is gradually increased by two months per birth cohort without any upper limit for men (and later on for women too). The pension eligibility age for women is increased by four months and from 2019 by six months to be unified with that of men. In 2012, a voluntary second pillar (with partial diversion of premiums from the PAYG plan) was legislated, but the take-up was very low, and the pillar is expected to be soon abolished.

Croatia. In 2010, female retirement age is raised to 65 for women by 2030. Early retirement age for both genders was also increased, and a modest late retirement bonus was introduced. In 2013, a further increase in the retirement age to 67 was legislated, along with the relaxation of the early retirement rules and more generous indexation. In early 2012, the government abolished privileged pensions of government officials and members of parliament to improve equity in the pension system. In August 2012, the list of military occupations subject to early retirement with extended service period was rationalized. The government reduced pensions that are above HRK 5,000 by 10 percent in December 2013 and conditioned the indexation of privileged part of the pension benefit with growth and fiscal parameters.

Hungary. Reforms taken in 2008 included eliminating the 13th month public pensions, and replacing the combined price-wage indexation of pensions with pure price indexation. According to the 2009 pension reform, since 2014, the statutory retirement age has been gradually increased (by half a year for every age cohort), with the objective of reaching 65 years in 2021 for those born in 1957 and thereafter. Measures to reduce or eliminate early retirement schemes, terminate special retirement rules for armed forces, tighten conditions for disability pension eligibility, and overhaul of allowances were also introduced in 2012. Moreover, to address fiscal pressures and contain public debt, the government made changes to the second pillar in 2011. Specifically, from November 2010 to December 2011, contributions from mandatory DC plans were diverted to the public scheme, and the mandatory DC scheme became voluntary in December 2011 with its assets transferred to the government. Finally, in 2013, the upper ceiling on pension contributions was terminated.

Poland. Retirement ages will gradually increase to 67 from 65 over the period 2013 to 2020 (men) and 2040 (women). Early retirement (at 62 for women and 65 for men) is possible with pension reduced by 50% (2012). Several early retirement schemes were abolished at the beginning of 2009. It is possible to defer both the notional and the funded, defined-contribution pension component without any age limits. In 2014, the second pillar was scaled-back with the transfer of about half of pension fund assets (and corresponding liabilities) to the PAYG plan. The changes also entailed, *inter alia*, a further redirection of contributions to the PAYG system which initially began in 2011, and the centralization of the payout phase in the PAYG plan.

Romania. Key reforms taken include the increase of the retirement age 63 years for woman females (65 for man) by January 1, 2015, and the equalization of both ages at 65 years by January 1, 2030; and the corresponding contribution period for receiving the full old-age pension. The valorization and indexation of pension benefits will change gradually to inflation by 2030. Other changes include reducing the attractiveness of early retirement; tighter eligibility for invalidity pensions; creation of a Guarantee Fund, funded by private pension operators, to backstop minimum investment return guarantee (real amount of contributions less commissions) for contributors to Pillar II; and the consolidation of special-sector pension schemes with the overall public pensions scheme. Lately there has been pressure to re-establish some of the privileged pensions.

Appendix II. Evolution of Pillar II Systems and Contribution Rates

Table. Evolution of Pillar II. Systems and Contribution rates[1/]

	Intro	Voluntary/mandatory		SSC of PAYG participants 1/	SSC of Pillar II participants 1/			Current status of Pillar II
					PAYG SSC	Pillar II SSC	Total	
Bulgaria	Jan-02	mandatory for those borne after 31/12/1959	2010	16.0%	11.0%	5.0 % (universal funds)		no change 5/
			2011-14	17.8%	12.8%	5.0 % (universal funds)		
Croatia	Jan-02	mandatory for those borne after 31/12/1961		20.0%	15.0%	5 % 3/	20%	no change
Czech Rep.	Jan-13	voluntary, but upon entry no withdrawal from Pillar II		28.0%	25.0%	(3+2)% 7/	(28+2)%	likely to be abolished (merged into Pillar III)
Hungary	Jan-98	mandatory for new entrants, voluntary for others	1998	31.0%	25.0%	6.0%	31.0%	Abolished
			1999-2000	30.0%	24.0%	6.0%	30.0%	
			2001	28.0%	22.0%	6.0%	28.0%	
			2002-03	26.0%	20.0%	6.0%	26.0%	
			2004-06	26.5%	18.5%	8.0%	26.5%	
			2007	29.5%	21.5%	8.0%	29.5%	
			2008-10	33.5%	25.5%	8.0%	33.5%	
			2011	34.0%	..	0.0%	..	
			2012	37.0%	..	0.0%	..	
Poland 4/	Jan-99	mandatory for those borne after 31/12/1968, voluntary for those borne between 1949 and 1969	up to 2010	19.5%	12.3%	7.3%	19.6%	partially abolished - investments in instruments other than (domestic) government bonds remain
			2011-12	19.5%	17.2%	2.3%	19.5%	
			2013	19.5%	16.7%	2.8%	19.5%	
Romania	Jan-07	mandatory for those borne after 31/12/1971, voluntary for those borne between 1962 and 1971	2007	31.3%	29.3%	2.0%	31.3%	restoration in progress
			2008	31.3%	29.3%	2.0%	31.3%	plan to increase to 6 % in 0.5
			2009	31.3%	29.3%	2.0%	31.3%	steps
			2010	31.3%	28.8%	2.5%	31.3%	
			2011	31.3%	28.3%	3.0%	31.3%	
			2012	31.3%	27.8%	3.5%	31.3%	
			2013	31.3%	27.3%	4.0%	31.3%	
Other CEE countries								
Estonia	Jan-02	mandatory for persons born in 1983 or later, voluntary for others	up to Jun-09	20.0%	16.0%	(4+2)% 2/	(20+2)%	fully restored
			Jul-09 to Dec-10	20.0%	20.0%	(0+2)%	(20+2)%	2014-17: rate may rise to 8 %
			2011	20.0%	19.0%	3.0%	(20+2)%	to make up for reduced
			2012	20.0%	16.0%	(4+2)%	(20+2)%	revenue
Latvia 4/	Jul-01	mandatory for those born after 1971, voluntary for those born between 1953 to 1971, those born before 1953 not qualified to join pillar II	up to 2006	20.0%	18.0%	2.0%	20.0%	partially restored
			2007	20.0%	16.0%	4.0%	20.0%	
			2008 to Apr-09	20.0%	12.0%	8.0%	20.0%	
			May-09 to Dec-12	20.0%	18.0%	2.0%	20.0%	
			2013	20.0%	16.0%	4.0%	20.0%	
			2014	20.0%	14.0%	6.0%	20.0%	
Lithuania	Jan-04	voluntary , but upon entry no withdrawal from Pillar II allowed	2004	26.3%	23.8%	2.5%	26.3%	partially restored
			2005	26.3%	22.8%	3.5%	26.3%	plan to further increase
			2006	26.3%	21.8%	4.5%	26.3%	funding going to Pillar II to 6
			2007	26.3%	20.8%	5.5%	26.3%	percent in 2016 and to 7.5
			2008	26.3%	20.8%	5.5%	26.3%	percent in 2020 (partially
			2009H1	26.3%	23.3%	3.0%	26.3%	financed from non-SSC
			2009H2-2011	26.3%	24.3%	2.0%	26.3%	revenues and additional
			2012	26.3%	24.8%	1.5%	26.3%	individual contributions).
			2013	26.3%	23.8%	2.5%	26.3%	
			2014 6/	26.3%	24.3%	(2+1+1)%	(26.3+1+1)%	1 from individuals, 1 from other state budget resources
Slovakia	Jan-05	Mandatory for employees aged 51 and younger;	up to sept 2012	18.0%	9.0%	9.0%	18.0%	partially reversed
			2013 6/	18.0%	14.0%	4.0%	18.0%	plan to increase pillar II from 2017

1/ SSC to finance pensions only.
2/ 4 ppt of mandatory SSC of the state are redirected to Pillar II. Individuals add 2 ppts of supplementary individual contributions.
3/Inital plan was to increase rate to 10 percent by 2009 but initial law never set a schedule for the increase to take place.
4/ Notionally defined contribution systems.
5/ In 2000, a second pillar-type sytem for workers in hazardous occupations was introduced with the aim to provide for early retirement.
The 2002 reform introduced a mandatory second pillar for all employees .
6/ contributors to the second pillar were also allowed to leave and return to PAYG.
7/ 2 percent supplementary contributions by individuals.