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**EUROPEAN PARLIAMENT'S SPECIAL COMMITTEE ON THE
FINANCIAL, ECONOMIC AND SOCIAL CRISIS**

Social impact of the crisis - Demographic challenges and the pension system

NOTE

Abstract

This briefing looks into the wider context of the financial and economic crisis 2008/09 with view of the already existing demographic expectations and challenges in the EU, specifically the state of the diverse EU pension systems and the extra impact of the crisis on the already existing challenges. It has three parts. Section 1 describes differences and similarities between the challenges of the crisis and of population aging. Section 2 quantifies the impact of the crisis on funded and unfunded pension systems. Section 3 takes a long-run perspective on which pension policies are necessary with or without future crises which are certain to happen again in some form or another.

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Table of Contents

1. Crisis vis-à-vis demographic change	1
2. The impact of the crisis on EU pension systems	2
3. Returning to a long-run perspective	6
Shifting the retirement age	7
Changing the mix of pension pillars	8
4. Conclusions	10

1. CRISIS VIS-A-VIS DEMOGRAPHIC CHANGE

On first sight, the crisis 2008/09 and the population aging process only feature differences. The crisis is a short term shock of a few years while demographic change is a long-term process lasting several decades. While the impact of the 2008/09 financial crisis may be felt for a decade or more, population aging will not go away even after the demise of the babyboom generation around 2050. It is a century event. The recent crisis is only one crisis among many – looking back just 20 years, the Asian crisis and the dot.com crisis also left deep scars; the stock market impact of the dot.com crisis in Europe was even larger than that of the recent financial crisis – and history is full of financial crises in which traders created asset price bubbles, among them the famous Tulip bubble that burst in 1637. The demographic challenge, however, is unique and we have little guidance from past history how a world will look like that has much fewer young people than we are used to. Also the quantitative effects are very different. As we will see, the impact of the crisis on pensions is in the order of 5 to 15 percent, while the impact of aging is doubling the burden on the younger generation, an increase in the order of more than 100% in many member states. Finally, while financial markets were the main culprit of the current crisis, they remain nolens volens part of the solution in tackling the challenges of demographic change.

There are, however, also similarities. The most striking similarity is the ignorance about their dangers. It was well known that the US and other countries, including some large EU member states, were developing real estate price bubbles, and that lenient monetary policy, especially in the US, was feeding that bubble. Special Purpose Vehicles (SPVs) have been known to escape prudence regulation. The challenges of population aging are equally well known, at least from the 1950s onwards, a time in which unfunded pension schemes greatly expanded and retirement ages declined in spite of steady increases in life expectancy. Ignorance, denial and political opportunism have prevented early action on the asset price bubble between 2004 and 2008, and similar ignorance, denial and political opportunism have in many member states undermined a consistent pension reform defusing the demographic time bomb.

Thus, while the economics of the crisis and of population aging are very different, we hope that more insight in the similarities of their political processes leads to a better management of future crises and demographic change, both certain to happen.

2. THE IMPACT OF THE CRISIS ON EU PENSION SYSTEMS

Europe features many different pension systems. Most importantly, they feature very different mixes between funded pillars (with a capital stock) and unfunded pillars (pay-as-you-go). We will structure this section accordingly. Many newspapers have claimed that funded pensions have been hard hit by the crisis, while unfunded pension systems have escaped from negative impacts through the crisis. This is not true, and this is an important lesson. As a matter of fact, there has been an astounding similarity in the impact on both funded and unfunded pension systems.

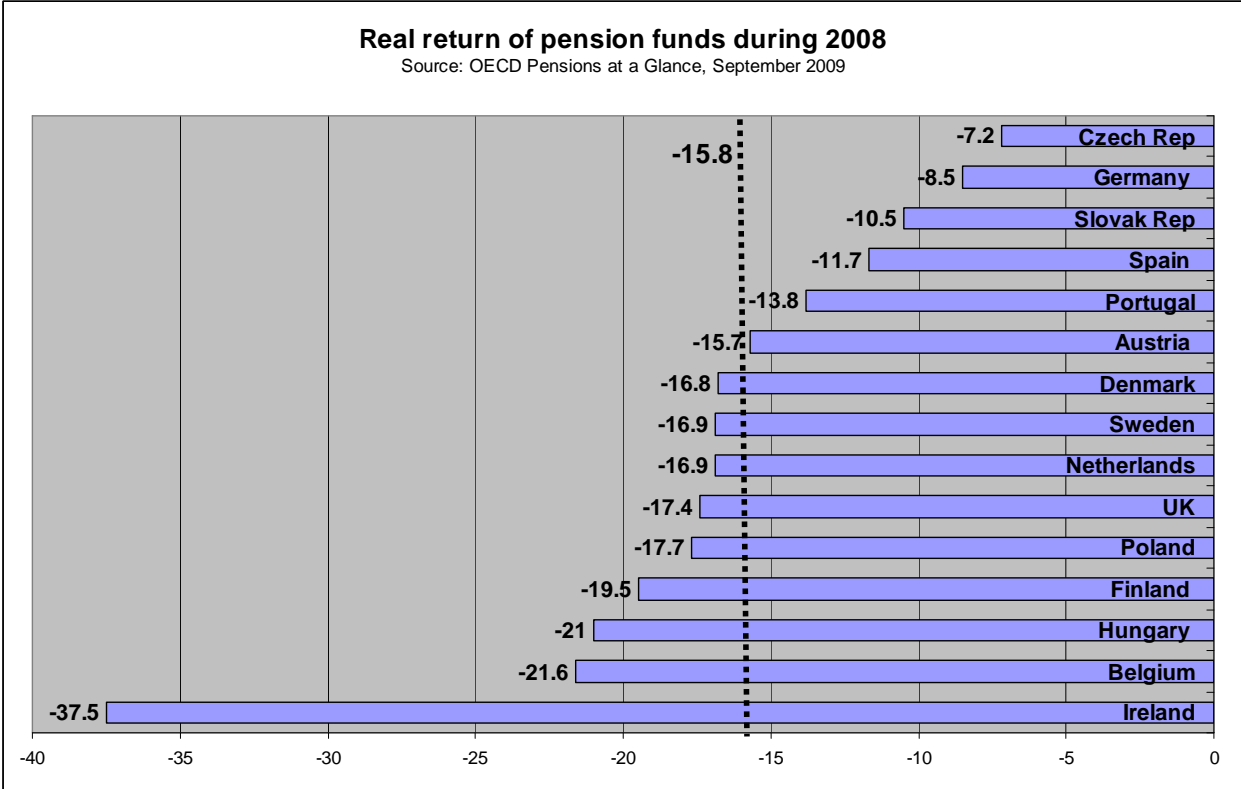
In **funded pension systems**, the current generation pays pension contributions which are “parked” on the financial market until the same generation, after retirement, withdraws the accumulated capital and uses it for old-age consumption. Quite clearly, funded pensions are directly affected by the financial crisis because the crisis devalued the funds which have been accumulated until the crisis.

The extent of the devaluation depends on the portfolio. Stocks have been devalued by roughly 50%, in some member states a bit less, in others much more. Bonds, in turn, have experienced little devaluation so far, although this varies a great deal across member states, as it concerns government bonds, and across sectors, as it concerns commercial bonds. German government bonds, for instance, have actually increased in value during the crisis, while Greek bonds lost value in face of a much elevated default risk. Pension funds differ greatly in their mix between bonds and stocks, with a much higher share of stocks in, e.g., the UK than in, e.g., Sweden.

Pension funds have been relatively little affected by the total losses which incurred in some structured products such as asset-backed securites (ABS) and mortgage-backed securites (MBS). Some pension funds and insurance companies have invested heavily in real estate. Real estate prices have performed very differently across EU member states. They were essentially unaffected in, e.g., Germany, but dropped massively in, e.g., Spain.

Hence, the impact of the crisis on pension funds is very different across countries and reaches, according to OECD estimates, from a loss of 7.2% in the Czech Republic to more than a third in Ireland, see Figure 1. Heterogeneity is also large within country since employees as well as employers have a choice of funds and portfolio composition. Overall, the crisis is estimated to have reduced the wealth accumulated in pension funds by 15.8%.

Figure 1:



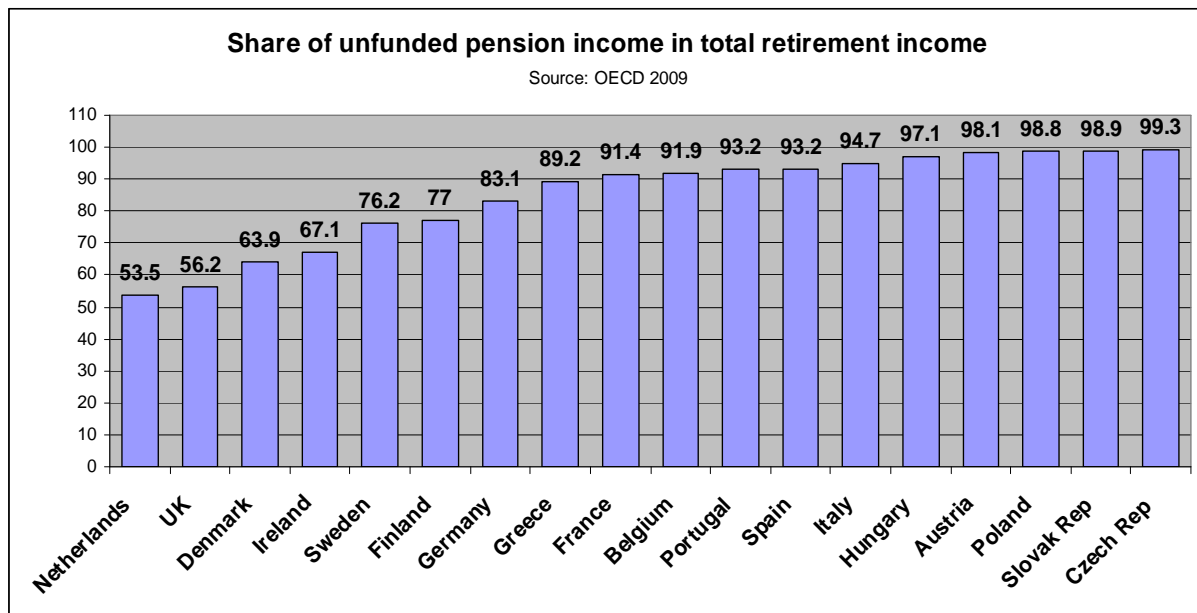
There are other vehicles for funded pensions. In Austria, Germany and Italy whole life insurance is very common. Their returns have stayed positive during 2008 (e.g., 3.6% in Germany). Many countries have employer-based pension funds based on book reserves which have, overall, not lost in value during the crisis. In Germany, taking pension funds, life insurance and all types of employer-based occupational pension wealth together, the crisis devalued these assets by about 3%.

Other countries' funded pensions have suffered substantially more from the crisis because their portfolio was heavier in stocks and less dominated by bonds. Given the above-mentioned average of a 15.8% loss in pension funds, and considering that pension funds have a higher share of stocks than most other pension vehicles, the overall impact of the crisis on funded pensions in the EU is a loss in the order between, very roughly, 5 and 15 percent.

So far for 2008. Stock markets have rebound in 2009. Nevertheless, the long-run impact on funded pensions is unclear. A desire for better protection against capital market losses will invariably lower returns in the longer run in return for more protection. This may be a change for the better. The crisis has taught the lesson that return and risk remain a trade-off, and that structured financial products such as ABS and MBS do not resolve this trade-off.

Unfunded pensions make up the bulk of pensions in Europe. As Figure 2 shows, even in the Netherlands, the country with the highest share of funded pensions, unfunded pensions outweigh them as contributors to retirement income. In many member states, unfunded pensions carry more than 90% of retirement income.

Figure 2:



Unfunded pensions are unrelated to the financial market. They are called “pay-as-you-go” because the current generation of employees pays pension contributions which are not “parked” on the financial market but immediately disbursed to the current generation of retirees. On first sight, therefore, unfunded pensions are not at all affected by a financial crisis.

Unfortunately, this is not true, as financial crises affect the rest of the economy as well. The channel is through the wage bill, i.e., the sum of all earnings in a country. It has decreased in most member states when the financial crisis turned 2008 into an economic crisis that lasted at least through 2009.

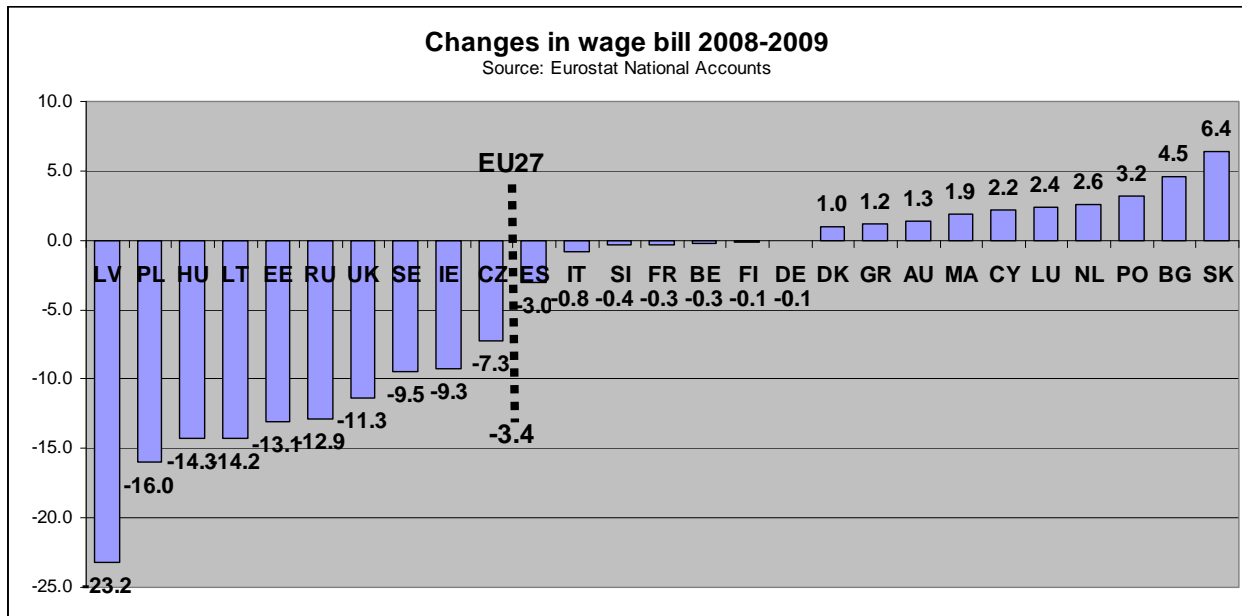
Pay-as-you-go pensions are paid from taxes and contributions levied on the wage bill. The wage bill is the “pie” from which unfunded pensions are distributed, whether they are earnings related (as, e.g., in France) or flat benefits (as, e.g., in the Netherlands). If this pie is shrinking, then less money is available for pensions.

This will either result in lower pension benefits, or, if pension benefits should remain stable, in higher contribution rates applied to the shrinking wage bill, or a combination of both policies. Either way, the implicit rate of return of the pay-as-you-go pension, roughly measured as the ratio of pension benefits over contributions, will decline, because pension benefits decline, or contributions increase, or a mix of both.

Even worse, if pension benefits are promised based on the average historical growth, e.g. in the “orange letters” of the Swedish pension system or the pension information briefs distributed by the German retirement insurance, then these promises need to be reduced by the decline of the wage bill relative to that average growth.

Figure 3 shows the impact of the 2008/09 financial and economic crisis on the wage bill. It depicts the changes during 2009 as reported by Eurostat, with the last quarter of 2009 estimated. The changes are very different across member states. In Latvia, the wage bill decreased by more than 20%, while it increased by more than 6% in the Slovak Republic. On average across all EU member states, the wage bill fell by 3.4%. Compared to long-term historical growth, this is a loss of more than 5%. In Sweden and the UK, and in most accession countries, the loss exceeded 10%.

Figure 3:



This applies to 2009. We do not know the future. Unemployment is likely to decrease again in 2011. Wages may increase more than in proportion when the EU economies recover. This may, however, endanger employment growth. It is highly likely that the wage bill – employment times wages – will return to its historic growth but a “supergrowth”, i.e. an overshooting that fully compensates for the losses in 2009, is very unlikely.

Hence, both funded and unfunded pensions are significantly affected by the crisis, and actually in an astoundingly symmetric fashion. Funded pensions have suffered from the devaluation of assets, mainly stocks and stock-related funds. Unfunded pensions have suffered from the decline in the wage bill. As much as assets are the base of a funded system is the wage bill the base for pay-as-you-go pensions. Both asset prices and wages may see increases to normal levels, maybe even some overshooting. But it is unlikely that this will compensate for the losses in 2008/09.

Also the size of the losses in funded and unfunded pension systems is roughly comparable, although it varies so much across member states that an average number is fairly meaningless. The order of magnitude is about 5 to 15 percent, and I am using this range only to compare it to the magnitude of the long-term challenges to which I will turn now.

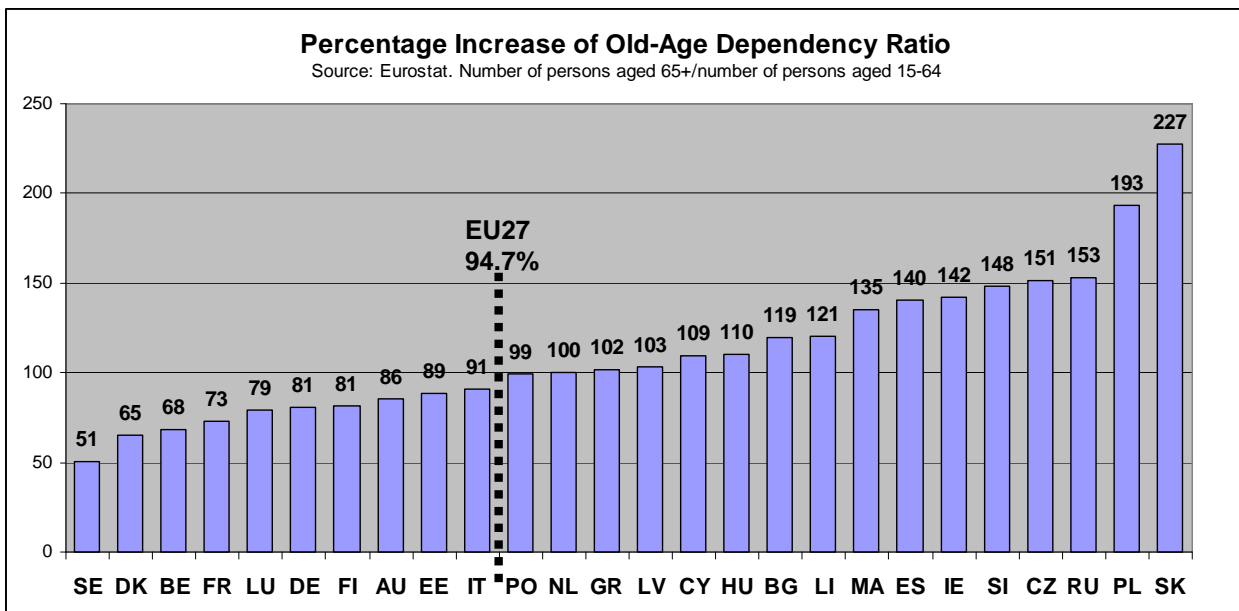
3. RETURNING TO A LONG-RUN PERSPECTIVE

The crisis has diverted attention from long-term policies. Just the opposite happened. In order to combat unemployment at least in the official statistics, early retirement measures have been taken up again in many member countries. Germany has even introduced a “pension guarantee” which tries to disentangle pension benefits from the growth of the wage bill. This has increased the implicit debt of the pension system by more than 20 Billion Euro.

Moreover, stimulus packages have increased deficits much beyond the 3% limit of the Maastricht accord and will also push the public debt in most member states well beyond the 60% limit. In Germany, for instance, debt will reach 83% in 2014 and will, even if the deficit limits will be observed from thereon, not be below 60% before 2024. Some member countries had already much higher levels before the crisis and have added on even more debt since. Large debts, however, will decrease the ability of governments to finance social policy because high interest payments crowd out social spending, including pensions. The squeeze will be amplified by promises made during the crisis such as the German pension guarantee and revived early retirement options.

The reaction on the crisis and the return to pre-Lisbon agenda policies is not commensurable to the problems at stake. As we have seen, the crisis has impacted on pensions in an order of magnitude between 5 to 15 percent. This is clearly not insignificant at all. However, it is dwarfed by the impact of population aging. Figure 4 shows the increase in the old-age dependency ratio, i.e., roughly spoken, the number of beneficiaries from old-age pensions divided by the number of individuals who contribute to the pay-as-you-go systems in Europe. This increase ranges from 51% in Sweden to about 200% in Poland and the Slovak Republic. The EU27 average is about 95%. Hence, the impact of population aging on pension systems is ten times as large as the crisis.

Figure 4:



While pension reform maybe the “third rail” in politics because it is highly unpopular, Figure 4 shows that it is clearly a necessity. No current system can survive a doubling of the cost-to-payer ratio. The pressures shown in Figure 4 will make public pension systems unsustainable all over the EU in a very foreseeable future if no appropriate policy actions are taken in time.

This is not a new message at all. However, the crisis has stopped many member state governments in earlier attempts to begin such policies, with reversals in retirement and benefit policies such as mentioned above. In order to compensate for the large costs of such short-run policies taken up during the crisis, the Lisbon reforms will have to be accelerated since the retirement of the babyboom is approaching quickly in just about 10 years, while the number of young individuals entering the job market is already declining in many member states. Accelerating the Lisbon policies is, however, a mighty political challenge.

Given that such reforms are a necessity but also tend to hurt politicians, an attractive idea is to automate inevitable adjustments of the pension system through indexation rules and other self-stabilization mechanisms. This is the philosophy behind this third section of the brief. It draws from the design and the success of pension reforms that have minimized discretionary decisions by political institutions which get pressured into doing nothing because short-run costs for the current actors are higher than long-run benefits for society as a whole. Self-stabilization mechanisms make the pension reform process more rational in the sense that society first sets rules which a majority of the voters finds reasonable in the abstract, and then applies these rules even if concrete changes would not find a majority.

The search for a perfectly self-regulating pension system that withstands all future societal changes is of course naïve. History is likely to continue surprising us. Societies change their preferences. Moreover, rules imply re-distributional features, almost always between generations (i.e., between workers and pensioners) and often also within generations (e.g., between rich and poor, or between male and female), and this requires the democratic process in order to reflect the preferences of the populace.

What are "natural" rules for the populace? Which positive aspects of aging can be exploited? I will use the two most important pension reform elements – retirement age and mix between pillars – as examples to describe how political framing might resonate with economic content and thereby alleviate reform.

Shifting the retirement age

It is a no-brainer that a longer life span requires a longer span of working life. Things simply have to stay in proportion. Most people understand this. Nonetheless, increasing the retirement age is one of the most emotional policy issues, partly due to clumsy political framing.

The essence of the problem is to find a "natural" compromise between the extremes of a fixed retirement age (hence all life years gained extend time in retirement) and of shifting the retirement age by the full amount of a change in life expectancy (hence all life years gained extend the work life). Such a natural compromise is to keep constant the proportion between life spent in retirement and life spent working. This proportionality rule can be framed as "increases in life expectancy are divided 2:1 between working life and retirement life" rather than the conventional frame "increase the retirement during the next 20 years by 2 years". Framing adaptation in these more natural terms, has helped to sell a reform of the retirement age as the Swedish example has shown, in a striking contrast to neighboring Denmark which tried to change retirement age by a fixed number of years and failed. A similar fate has undermined the German predefined schedule of retirement age increases, and encountered fierce opposition in France, Greece and elsewhere.

Changing the mix of pension pillars

Pension systems usually have several pillars. Their principle functioning can be described by two dimensions: whether they are funded or pay-as-you-go, and whether they are defined contribution or defined benefit. Pension design is the art of finding the right mixture of the four elements.

The *pay-as-you-go principle* is important because it spreads risk across generations. Moreover, pay-as-you-go systems can begin paying benefits without delay, and they can easily be expanded if population or productivity grows quickly. Exactly these features are also their Achilles heel: Pay-as-you-go systems are unsustainable if the size of the contributing population shrinks. They are exposed to demographic, productivity and, since they almost invariably are state systems, political risks.

Funded pension systems are able to decouple generations because every generation is responsible for its own ratio between contributions and benefits. While there are macroeconomic feedback effects which link the rate of return to demographics, they are small. Funded systems require a long time of capital accumulation and thus feature long transition periods until they can pay benefits. They are exposed to capital market risks even over a long time horizon.

Defined benefit (DB) pensions have been an important achievement of social policy during the emergence of modern welfare states. They provide workers with a reliable perspective on their retirement income. They may, however, become unsustainable if the balance between contributors and benefit recipients changes. Since benefit promises are made over a long time, they usually involve two generations and create an implicit debt that is very large in many EU member countries.

Defined contribution (DC) pension systems automatically react to these changes and are thus sustainable by design. However, they expose workers to demographic, productivity and capital risks depending on the underlying pay-as-you-go or funding principles. These brief descriptions reveal a painful tension between macroeconomic sustainability and individual stability of retirement income. The advantage of rule-bound pension policies is that they resolve this tension *ex ante* and automatically generate a predefined mixture between PAYG and funding and between DB and DC.

The Swedish version of a rule-bound mixture is framed in terms of an individual accounts system in which the rate of return of the PAYG pillar adjusts to demography, thereby automatically decreasing the portfolio share of the PAYG pillar and increasing the funded subsystem. Both pillars are framed as DC systems.

Such framing would be extremely unpopular in Germany. Germany's version of a rule-based system indexes annual pension benefit increases in the PAYG pillar to a combination of wage growth and the decline in the dependency ratio. This rule has the same effect as the Swedish account system: it decreases the portfolio share of the PAYG pillar. At the same time, "Riester pensions", which are funded and a mixture of DB and DC, take up the slack.

The framing of the two reforms could not be more different. Sweden sold its reform as a radical change from the past and was popular. In Germany, the reform was marketed as an evolutionary adaptation of the existing popular system to unavoidable demographic change. Nevertheless, both adaptation rules are in essence mathematically equivalent. Both reforms were "sold" reasonably well to the respective populaces since they resonated with their thinking.

The two systems share another design element which generates acceptance: pension benefits are roughly proportional to contributions. This creates a quid pro quo and minimizes the tax character of contributions. In Sweden, the individual accounts system makes the quid pro quo obvious. In Germany (and similar in France), it is the accumulation of individual earnings points which minimizes the tax character of contributions.

Reducing the portfolio share of PAYG pensions requires an increase in the funded share. The success of the Swedish and German reforms in this dimension rested on using investment vehicles to which households were reasonably acquainted with. Sweden had a history of state-run funds while Germany had a tradition of using whole life insurance as a retirement provision. Exploiting these infrastructures seems to be another key element in order to gain acceptance.

Finally, it is important for social acceptance to provide some form of a minimum old-age income. Automatic rules adapted to demographic change imply that PAYG benefit income will decline; and tying benefits to contributions implies that all pensions are reduced by the same percentage. Both principles together may create old-age poverty. Hence, reforms along the lines of the preceding chapter require a floor on old-age income. While such a floor has negative effects on labor supply, this is the unavoidable trade-off intrinsic to any poverty alleviation.

4. CONCLUSIONS

The crisis of 2008/09 has impacted on funded and unfunded pensions. As opposed to popular opinion, unfunded pensions have been affected in pretty much the same order of magnitude as funded schemes. The percentage loss varies a great deal across member states and averages around 5 to 15 percent across the EU27. The symmetric reaction to a financial and economic crisis strengthens the view that mixed multi-pillar systems of funded and unfunded elements are risk-minimizing.

While the impact of the crisis is significant, it is dwarfed by the impact of population aging which is about tenfold larger, again widely varying across EU member states. Pension reform is thus a necessity. Turning the clock backwards on reform as it has been done in some member states in response to the crisis will badly backfire as later reforms will have to be more incisive and politically even more difficult as they already are.

Rule-bound pension reform strategies avoid the temptation to make short-sighted discretionary decisions which decrease sustainability. This makes rule-bound pension reform strategies attractive both for adapting the retirement age to life expectancy and for adjusting pension benefits to the dependency ratio. Rule-bound pension policy decrease, although do not get rid of the time-inconsistency problem in an uncertain environment, well-known from monetary policy and, particularly well-known to the EU, from government debt containment. It is an important role of the EU and its parliament to strengthen time consistency and with it the sustainability of its social policies.