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Reforming Retirement-
Income Systems: Lessons
from the Recent
Experiences of OECD
Countries

**John P. Martin,
Edward Whitehouse**

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SUMMARY

1. Reforming pensions looms large over the policy agenda of OECD countries. This is hardly surprising since public spending on pensions accounted on average for 7 per cent of OECD GDP in 2005; and this pension spending effort is set to increase significantly over the coming decades in response to population ageing. Pension policy is indeed challenging and controversial because it involves long-term decisions in the face of numerous short-term political pressures.

2. However, the status quo does not always win out so far as pension reform is concerned: public finance crises and the looming threat of ageing populations have proved effective spurs for reform. As a result, much has been done since the early 1990s to make pension systems fit for the future. Nearly all the 30 OECD countries have made at least some changes to their pension systems in that period. In 16 of them, there have been major reforms that will significantly affect future benefits.

3. The purpose of this paper is to summarise these reforms and highlight the main lessons. Section 1 looks at which countries reformed their pensions systems and which did not. It also examines the fiscal challenges posed by public pensions. Section 2 describes the measures in the reforms themselves. These include, among other things, increases in pension age, changes in the way benefits are calculated and smaller pension increases in retirement than in the past. Section 3 explores the impact of these reforms on future pension entitlements of today's retirees, showing a clear trend to a lower pension promise for today's workers than for past generations. This means that people will need to save more for their own retirement via private pension schemes, an issue examined in Section 4. This is followed in Section 5 by a review of the main outstanding challenges facing pension systems in OECD countries. The final section presents some concluding remarks.

RÉSUMÉ

4. La réforme des retraites occupe une place d'importance dans tous les programmes politiques des pays de l'OCDE. Ceci n'est guère surprenant dans la mesure où les dépenses publiques pour les retraites ont constitué en moyenne 7% du PIB des pays de l'OCDE en 2005 ; et cet effort de dépenses publiques risque d'augmenter de manière significative pendant les prochaines décennies en réponse au vieillissement démographique. Les politiques en matière de retraite font donc face à des défis de taille et sont controversées parce qu'elles impliquent des décisions à prendre à long terme face à de nombreuses pressions politiques de court terme.

5. Pour l'instant, nous n'assistons pas pour autant à un status quo en matière de réforme des retraites. En effet, les crises financières publiques et la crainte grandissante causée par l'apparition d'une population vieillissante ne font qu'encourager les réformes. C'est ainsi que beaucoup a été fait depuis les années 90 pour faire en sorte que les régimes de pensions se réactualisent en tenant compte de l'avenir. C'est presque tous les 30 pays de l'OCDE qui ont ainsi fait quelques changements pendant cette période. Seize d'entre eux ont d'ailleurs opté pour des réformes significatives devant affecter considérablement les prestations futures.

6. Ce document vise à résumer ces réformes et à mettre en exergue les principales leçons à tirer. La Section 1 se penche sur les pays qui ont réformé leurs régimes de pensions et ceux qui n'ont pris aucune mesure. Elle s'intéresse aussi au défi fiscal posé par les pensions publiques. La Section 2, quant à elle, décrit ces réformes, entre autres, l'augmentation de l'âge de la retraite, le changement du mode de calcul des prestations et des augmentations moindres des retraites par rapport aux années précédentes. La section 3 s'arrête sur l'impact de ces réformes sur les prestations futures des actuels retraités. Elle montre une claire tendance à promettre des retraites plus basses aux travailleurs d'aujourd'hui par rapport aux générations antérieures, le constat étant que les travailleurs devront dorénavant économiser davantage en vue de leur propre retraite via des régimes de pensions privés, sujet examiné dans la Section 4. La Section 5 examine les principaux défis auxquels doivent faire face les régimes de pensions des pays de l'OCDE. Le document se termine par des remarques de conclusion.

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REFORMING RETIREMENT-INCOME SYSTEMS: LESSONS FROM THE RECENT EXPERIENCES OF OECD COUNTRIES¹

7. Reforming pensions looms large over the policy agenda of OECD countries. This is hardly surprising since public spending on pensions accounts for such a large share of GDP: on average across OECD countries, it amounted to 7% of GDP in 2005; and this pension spending effort is set to increase significantly over the coming decades in response to population ageing unless offsetting reforms are enacted. It is often said in the United States and elsewhere that reforming public pensions is the “third rail” of politics: touch it and you die! Pension policy is indeed challenging and controversial because it involves long-term decisions in the face of numerous short-term political pressures. Before the long-term benefits of reform appear, most governments will have left office and so there is natural tendency to postpone needed reforms or leave them for the next government to tackle.

8. However, the status quo does not always win out so far as pension reform is concerned: public-finance crises and the looming threat of ageing populations have proved effective spurs for reform. As a result, much has been done since the early 1990s to make pension systems fit for the future; often, more than governments are given credit for. Nearly all the 30 OECD countries have made at least some changes to their pension systems in that period. In 16 of them, there have been major reforms that will significantly affect future benefits.

9. The purpose of this paper is to summarise these reforms and highlight the main lessons. Its structure is as follows. Section 1 looks at which countries reformed their pensions systems and which did not. It also examines the fiscal challenges posed by public pensions. Section 2 describes the measures in the reforms themselves. These include, among other things, increases in pension age, changes in the way benefits are calculated and smaller pension increases in retirement than in the past. Section 3 explores the impact of these reforms on future pension entitlements of today’s retirees, showing a clear trend to a lower pension promise for today’s workers than for past generations. This means that people will need to save more for their own retirement via private pension schemes (or by other means), an issue examined in Section 4. This is followed, in Section 5, by a review of the main outstanding challenges facing pension systems in OECD countries. The final section presents some concluding remarks.

1. Which countries reformed?

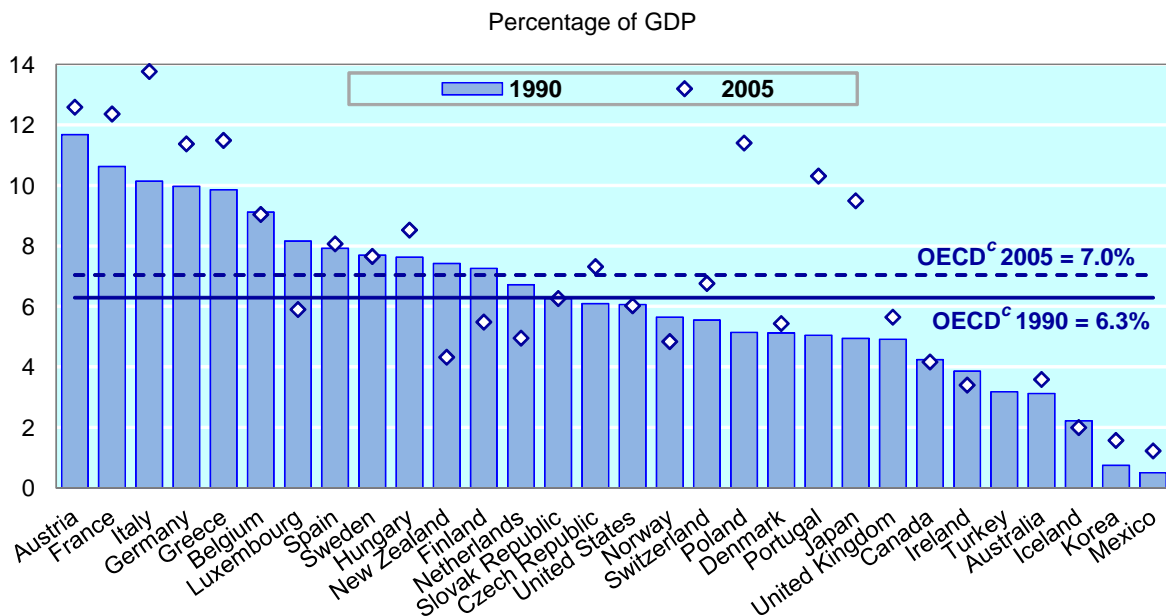
10. The growing cost of paying for pensions, both in the past few years and projected into the future, was often cited as the main motive for reform. In particular, population ageing both highlighted and exacerbated the fiscal cost of providing incomes in old age. Figure 1 shows data on public pension spending in OECD countries in 1990 – the beginning of the period under study – and 2005 – near the end. Back in 1990, pension spending was already above 10% of GDP in five countries: Austria, France,

1. John P. Martin is Director of Employment, Labour and Social Affairs at the Organisation for Economic Co-operation and Development, while Edward Whitehouse is a senior economist in that Directorate. This paper draws on work with a number of colleagues in the OECD, including Anna D’Addio, Pablo Antolín, Martine Durand, Mark Pearson, Monika Queisser, Andrew Reilly and Fiona Stewart. However, the views expressed here are our own and do not necessarily reflect the official views of the OECD or of the governments of its member countries.

Germany, Greece and Italy. In all five, spending continued to grow throughout the 1990s. Italy moved to the top, with spending of around 14% of GDP in 2005. Japan, Poland and Portugal also recorded significant increases in public pension spending over the period so that by 2003 the GDP share was close to or exceeded 10% in all three countries.

11. At the other end of the scale are Korea and Mexico, with spending of around 1% of GDP, and Turkey, at around 3% of GDP. These countries have less mature pension systems than the higher-income members of the OECD, their populations are currently much younger and coverage of formal pension schemes is also lower. Among the higher-income OECD countries, public pension spending is lowest in Australia, Canada and Ireland and changed little over the period 1990-2005. Again, these countries have relatively favourable demographics, but they also have relatively small public pensions and rely heavily on private pensions to support people's income in old age.

Figure 1. Public expenditure on pensions, a 1990 and 2005b



a) Data include old-age and survivor cash benefits and exclude disability benefits.

b) 1999 for Hungary and 1995 for the Slovak Republic instead of 1990. 2004 for Australia, Canada, Mexico, New Zealand, Portugal. No recent data for Turkey.

c) OECD-27 unweighted average excludes Hungary, the Slovak Republic and Turkey.

Source: Provisional data from OECD Social Expenditure database (SOCX).

12. Six of the ten countries with the *highest* public expenditures on pensions as a percentage of national income in 1990 – Austria, Finland, France, Germany, Italy and Sweden – have undertaken major pension reforms since 1990. These reforms have cut benefits and will lead to lower pension spending in the future.

13. However, the ten OECD countries with the *lowest* pension expenditures in 1990 were equally active. This group of reformers, which includes Japan, Korea, Mexico and Turkey, currently has a low level of pension expenditure. Nevertheless, these countries will face significant financial challenges in the future that they are aiming to ease by acting now.

14. In Japan, the need for change to the pension system is driven by the pace and scale of population ageing. Pension expenditure in Japan almost doubled from 5% of GDP in 1990 to 9.7% in 2005. Korea is undergoing particularly rapid demographic change, moving from one of the youngest to one of the oldest populations in the OECD in the space of only one generation.

2. What did countries do?

15. This paper focuses on the 16 OECD countries that introduced *major* pension reforms since 1990. The definition of “major” is clearly subjective, but we have chosen those changes that will significantly affect future retirement benefits. Indeed, the analysis focuses on the impact on retirement incomes, but many countries have also changed pension contribution rates or financing mechanisms (building public pension reserves, for example).

16. Most of these 16 countries’ pension reforms were packages comprising a number of different measures, as shown in Table 1. Some of these changes, such as increases in pension ages, are highly visible and often politically controversial. Others, such as changes in either the way in which earnings are measured when calculating benefits or pensions are indexed, are more technical and less transparent. Some countries maintained the structure of the pension system, modifying only parameters and some of the rules, while others overhauled the entire system. Table 1 distinguishes between changes to parameters and changes to the paradigm of pension schemes.

Table 1. Main elements of pension reform packages in selected OECD countries

	Changing parameters					Changing paradigm			
	Pension age		Retirement incentives	Calculation		Indexation	DC	NDC	Life expectancy
	M	F		measure	revaluing				
Austria	•	•	•	•					
Finland			•	•	•			•	
France			•	•	•			•	
Germany	•	•	•					•	
Hungary	•	•	•	•		•			
Italy	•	•	•				•		
Japan	•	•		•					
Korea	•	•							
Mexico						•			
NZ	•	•							
Poland			•	•		•	•		
Portugal		•	•	•	•			•	
Slovakia	•	•		•		•			
Sweden				•		•	•		
Turkey	•	•							
UK	•	•	•						

Note: DC = defined contribution; NDC = notional defined contribution.

Source: based on OECD (2007), Table II.1.1. See also Whiteford and Whitehouse (2006).

2.1 *Changing pension-system parameters*

17. Changes in **pension age** are the most common feature of reform packages. The rationale for these changes is clear: starting in the 1960s, life expectancy started growing rapidly for both men and women, but many countries cut their retirement ages. The average age at which full-career workers can first draw their pension in OECD countries for men fell from 64.5 years in 1958 to 62.2 years in 1993 and for women from 61.8 to 60.7 years (Turner, 2007).

18. Recent reforms have reversed the trend to lower pension eligibility ages, with ten countries introducing gradual increases in pension ages for both men and women. Portugal will increase the pension age for women to equal that of men. When these reforms are complete, most OECD countries will have a standard retirement age of 65 years, although in Denmark, Germany, Iceland, Norway, the United Kingdom and the United States, the pension age is or will be 67 or more. Only France, Hungary and the Czech and Slovak Republics plan to have normal pension ages below 65; in four more countries, only women can retire on a full benefit before the age of 65.

19. Nonetheless, *effective* retirement ages – the age at which people actually stop working – are lower on average than the standard pension age in most countries (OECD, 2006). A common policy response, adopted by nine countries, has been to encourage older workers to stay longer in their jobs by changing pension **incentives to retire**. Pathways to early retirement, many of which were introduced in the 1970s in response to high and rising unemployment, have been closed to new entrants or restricted severely.² Penalties for early retirement in old-age pension schemes have been introduced or increased in many countries, including Austria, Germany and Italy. Similarly, countries such as France and Sweden have increased the number of years of contributions required to receive a full pension. Other countries have introduced or increased the increments or bonuses paid to people retiring after the normal pension age: Spain and the United Kingdom, for example. These measures aim to reduce early pension benefits by an amount that corresponds both to the lower amount of contributions paid by the worker and to the increase in the period over which the worker can expect to receive pension payments (see Queisser and Whitehouse, 2006, for further discussion).

20. The other changes to pension systems have been more technical and less visible. Two of these relate to **calculation** of the earnings base for pension entitlements.

21. First, seven OECD countries have extended the period over which earnings are taken into account instead of just basing the benefit on a limited number of final-years or best salaries. For example, France is moving from the best 10 years to the best 25 years in the public scheme. Finland, Poland, Portugal, the Slovak Republic and Sweden are all moving to a lifetime average earnings measure. Extending the period over which earnings are measured will tend to cut pension benefits given the normal upward slope to the age-earnings profile for most workers, at least to late in their careers. The average of the best years or final earnings is usually higher than the average over the working lifetime because the latter also takes earlier years with lower earnings into account. As a result of these reforms, most OECD countries – 17 out of the 22 with the relevant kinds of scheme – will use a lifetime earnings measure or a close proxy for it.

22. Secondly, many systems revalue past earnings to take account of changes in living standards between the time pension rights accrued and when they are claimed. Several countries have moved to a less generous adjustment. For example, France moved to price revaluation in the public scheme as early as 1985 and in the occupational schemes in 1996. How past earnings are revalued has a large effect on retirement benefits. A generic example illustrates the impact. Assume real-wage growth of 2% and price

2. For the details of such reforms, see OECD (2006, Chapter 4).

inflation of 2.5% per year. For a full-career worker, working from age 20 to 65, revaluing past earnings with prices results in a pension benefit on retirement that is 40% lower than a pension resulting from valorisation in line with economy-wide average earnings. This is due to the “compound-interest” effect.

23. The final technical reform has been to the way that pensions in payment are adjusted: **indexation** policy. Many OECD countries have moved from adjusting pension benefits to earnings towards full or partial indexation to prices. This preserves the purchasing power of pensions, but means that pensioners do not share to the same extent as workers in the general growth in living standards.

24. All of these changes can have a strong effect on pension benefits. But their technical nature makes them less transparent to voters and this may mean that they attract less political opposition than more visible and easily-understood reforms.

2.2 *Changing pension-system paradigm*

25. A number of countries opted for wholesale or systemic reform. The most common policy has been to remove all or part of the public defined-benefit (DB) pension system and replace it with **defined-contribution (DC)** provision. In DC schemes, the pension depends on contributions and the interest earned on them. Hungary, Mexico, Poland, the Slovak Republic and Sweden have all introduced mandatory, privately managed individual accounts to replace part of the public pension.

26. Another change of retirement-income paradigm has been the shift in public pensions from DB plans to **notional accounts**. These schemes, adopted in Italy, Poland and Sweden, are designed to mimic some of the features of DC schemes. Hence, they are often called notional defined-contribution schemes (**NDC**). Again the pension depends on contributions but, unlike DC plans, the notional interest rate is set by government and often linked to wage or GDP growth. The schemes remain pay-as-you-go financed: no assets are accumulated.

27. The reforms to pension paradigms share one important feature: pensions will in future automatically adjust to changes in life expectancy. When pension capital is accumulated in an individual account, it is usually transformed into a regular pension payment – an “annuity” – at retirement. Annuities will be lower, the higher life expectancy is at the time of retirement because the pension will be paid for a longer time. Benefits from notional accounts are calculated in a similar way. But such automatic adjustments to **life expectancy** can also be built into systems which have not undergone systemic reform. Germany, Finland and Portugal have linked benefit levels to life expectancy in different ways. France has opted instead to extend the years of contributions necessary for a full benefit as people live longer.

2.3 *Impact of reforms*

28. The primary motive for pension reforms was to contain the future costs of public pensions in the context of population ageing. There have been numerous studies of the effect of pension reform on the public finances; this analysis is not repeated here.³ Instead, the focus of this paper is the *social* rather than the *fiscal* impact of changing retirement-income regimes – on equity and the distribution of income – an issue that has been rarely studied in a cross-country context. Such microeconomic analysis is designed to complement the macro picture provided by long-term financial projections of pension systems.

3. For examples of such studies, see Economic Policy Committee (European Union, 2005, 2006), Salomaki (2006) and Dang *et al.* (2001).

3. Pension reforms and future pension entitlements

29. Reforms to retirement-income regimes often altered a range of the parameters and rules of pension schemes. This makes it difficult to compare these reform packages between countries based on institutional information alone. The analysis that follows uses the concept of the **replacement rate**: pension income relative to earnings when working. The results show the *net* replacement rate, which takes account of taxes and contributions paid on retirement incomes and on earnings.

30. Before turning to the results, we provide a brief description of the methodology.⁴

3.1 Methodology

31. The results described as post-reform take the situation of a worker entering the labour market in 2004 and spending the whole of his or her career under the same set of pension parameters and rules: those applying in 2004 along with any legislated changes that will take effect over time. The calculations show the pension entitlements of a worker who enters the system today and retires after a full career, defined as entering the labour market at age 20 and working until the standard pension-eligibility age which, of course, varies between countries. The results are shown for a single person only. The replacement rates include all *mandatory* pension schemes for private-sector workers, regardless of whether they are public or private. Resource-tested benefits for which retired people may be eligible are also modelled.

32. The comparisons are based on a single set of economic assumptions. Although the level of pensions will be affected by economic growth, wage growth and inflation – and these will vary between countries and over time – a single set of assumptions ensures that the calculations for the different pension regimes reflect differences in pension systems and policies alone.⁵

33. The baseline assumptions are:

Real average earnings growth	2% per year
Individual earnings	in line with economy-wide average
Price inflation	2.5% per year
Real return on DC schemes, net of administrative charges ⁶	3.5% per year
Discount rate	2%
Mortality rates ⁷	Country-specific for 2040

34. The pre-reform scenario is built on the following question: what would the parameters and rules of the pension system have been in 2004 had the pension reform not taken place? This stylised approach is designed to isolate the effects of the reform programme from other changes of the past decade. The aim is

4. For full details on the methodology, together with descriptions of how it is applied in each OECD country, see OECD (2005a, 2007).

5. See OECD (2005a, 2007) for analysis of the sensitivity of the results to these assumptions.

6. In practice, this assumption might mask genuine differences in administrative fees between countries. See Whitehouse (2000, 2001) for a detailed cross-country comparison of administrative charges.

7. These are used in the calculation of pensions that are linked to life expectancy. DC benefits are assumed to be paid in the form of a price-indexed life annuity at an actuarially fair price. Similarly, the notional annuity rate in notional accounts schemes is generally calculated from mortality data using national assumptions.

not to calculate pensions for people retiring in 2004. First, the frequency of pension reforms would mean that many more than two sets of pension rules would need to be modelled along with often complex transition provisions, making the calculations intractable. Secondly, the position of current retirees is better assessed using income-distribution or administrative data on actual benefits of retirees than by micro-simulation.

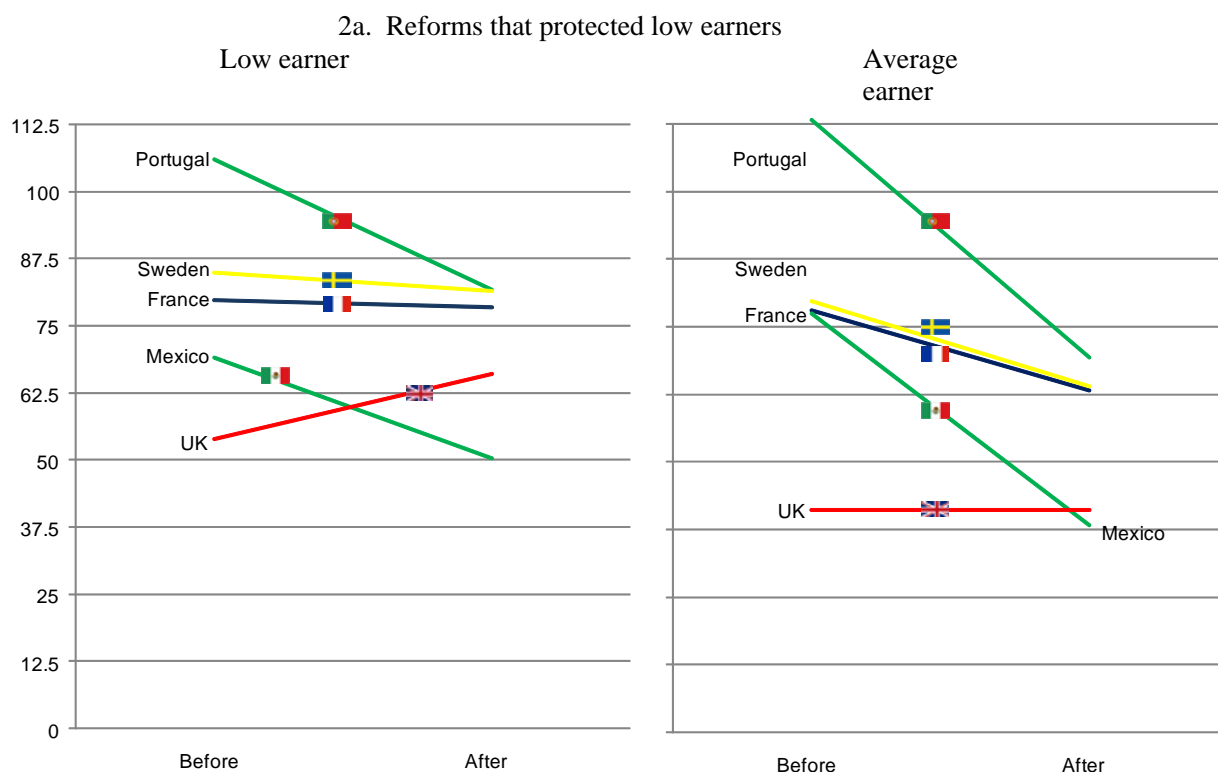
35. Finally, it is important to note that this is a microeconomic comparison and so is silent on the affordability of pension promises in the two scenarios. It should therefore be viewed as a complement to the macroeconomic financial projections of pension systems mentioned above.

3.2 Average earners

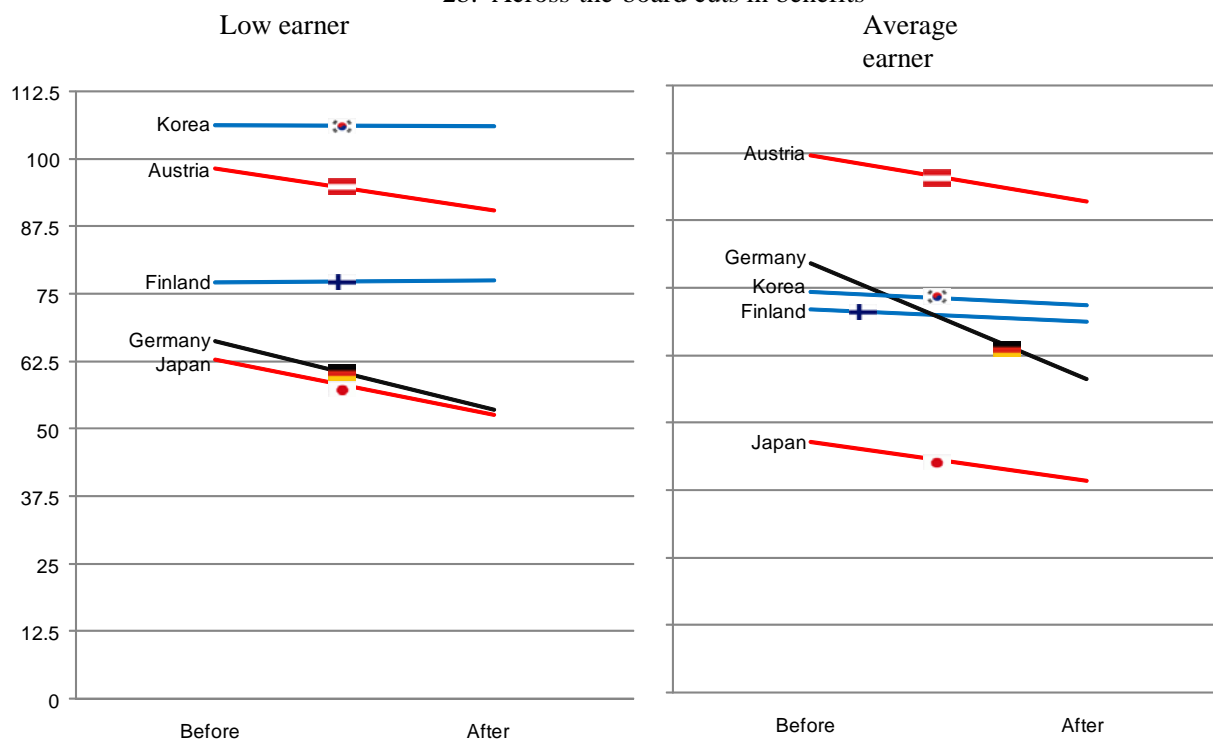
36. Figure 2 shows net replacement rates for a full career spent under the rules before and after reforms. The results for average earners are shown in the right-hand panels. Before reform, the average net replacement rate of the countries under study was 84%. In Portugal, the net replacement rate exceeded 100% and it was close to 100% in Austria. At the other end of the spectrum, Japan and the United Kingdom had relatively low pensions before embarking on the recent rounds of reforms: 47% and 41%, respectively.

37. Turning to the reforms, the average net replacement rate after the changes are in place will be just under 70%, compared with 84% before reform. The largest (relative) cuts for average earners were in Mexico – where long-term benefits will be just half of those under the previous system – Portugal (nearly 40%) and Germany (27%). In contrast, reforms increased the net replacement rate for average earners in Hungary and left it unchanged in the United Kingdom.

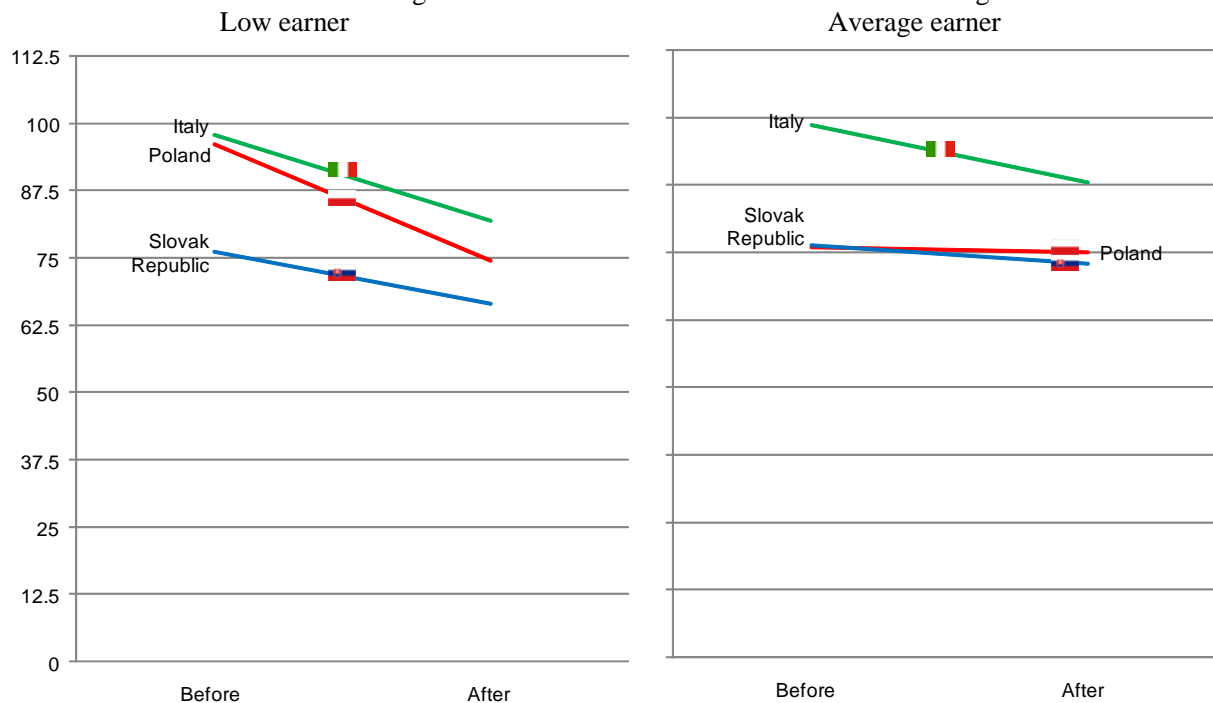
Figure 2. Impact of pension reforms on net replacement rates by earnings level



2b. Across-the-board cuts in benefits



2c. Reforms that strengthened the link between contributions and earnings



Note: "Low earner" is defined as a worker earning 50% of the average economy-wide wage.

Source: OECD (2007).

3.3 *Low earners*

38. The left-hand panels show how low earners were affected by the reforms, where low earnings are defined as half of average (mean) economy-wide pay. Before reform, the average net replacement rate for these workers was 87%, slightly higher than the pre-reform figure for average earners because of the redistributive features of some countries' pension systems. After reform, the average net replacement rate for low earners is projected to fall to 77%, a smaller decline than that projected for average earners.

39. The largest cuts in benefits for low earners – of one fifth or more – are found in Germany, Mexico, Poland and Portugal. In contrast, net replacement rates were increased by changes in Hungary and the United Kingdom. There was no change in benefit levels in Finland.

3.4 *Changing patterns of pensions with earnings*

40. The impact of pension reforms on people at different levels of earnings varies between countries. Figure 2 divides them into three categories. At the top (Figure 2a) are reforms that protected low earners. In France and Sweden, for example, pensions for average earners will fall by around 20%. However, low earners should expect only a slightly smaller pension than previously. In Mexico and Portugal, the reductions in benefits were much smaller for low earners. The 50% cut for average earners in Mexico compares with just 27% for low earners. While benefits of average earners remained unchanged in the United Kingdom, low earners can expect a higher net replacement rate because of the new pension credit and second state pension. All of these reforms shown in the top row of Figure 2 increased the targeting of the pension system on people who had low incomes when working.

41. The bottom row (Figure 2c) shows countries with reforms that worked in the opposite way to those in the top row. In Poland and the Slovak Republic, average earners face only modest benefit reductions. Low earners, in contrast, will have pensions 22% and 12% lower, respectively, than under the pre-reform systems. In Italy, the reduction in benefits for low earners is larger than for people on average pay. The countries in Figure 2c explicitly wanted to strengthen the link between pensions in retirement and earnings when working. The underlying belief was that this was fairer than a redistributive pension system and that it would reduce distortions in the labour market.

42. In the middle of Figure 2 are five reforms – including Germany's – that cut benefits "across-the-board". In these countries, the proportional reduction in benefits is broadly similar for low and average earners.

4. **The growing role of private pensions**

43. Recent pension reforms mean – directly or indirectly – that private pensions will play a greater role in providing incomes in old age in the future. First, five countries – Hungary, Mexico, Poland, the Slovak Republic and Sweden – introduced mandatory private pensions as a *substitute* for part of public retirement-income provision. In Iceland, Switzerland and the United Kingdom, the private sector's role in providing part of mandatory pensions dates back to the 1980s or earlier. In Denmark, the Netherlands and Sweden, there are private pension schemes that are best described as "quasi-mandatory", because industrial-relations agreements ensure coverage of 80% or more of the workforce in those countries.

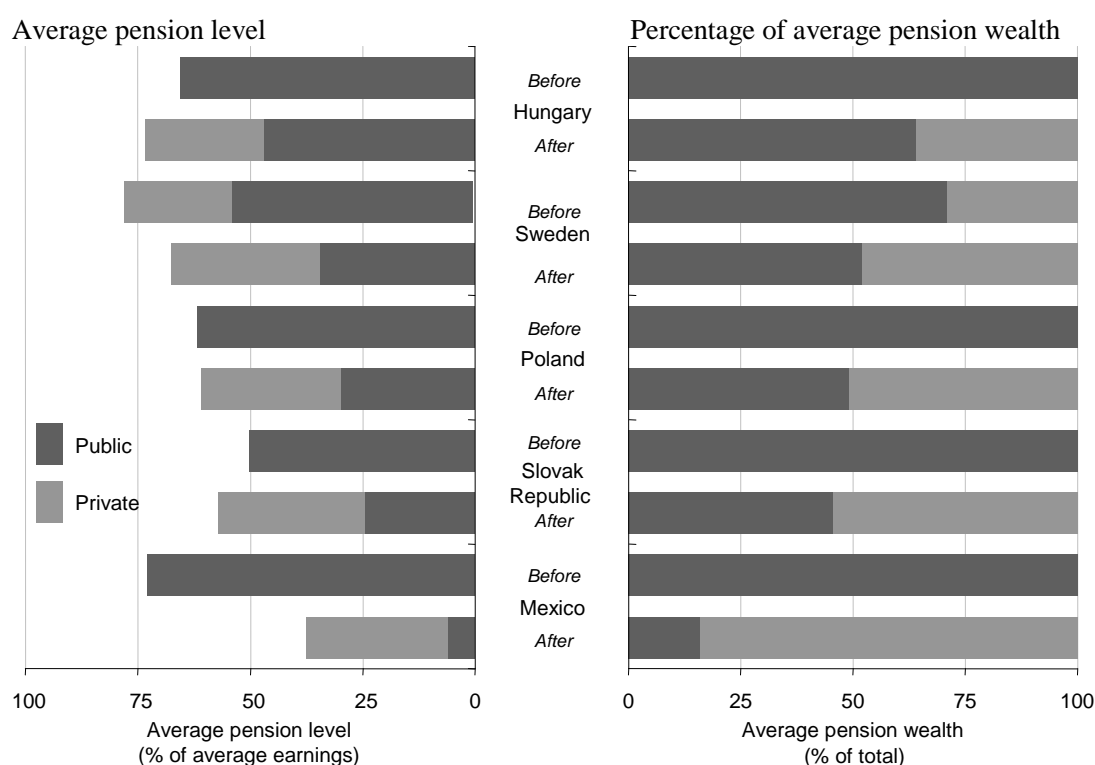
44. Secondly, Australia and Norway (whose reforms were not analysed above) mandated private pensions *on top of* public plans. Thirdly, many countries that cut public pensions explicitly stated that they expected private provision to offset the impact on future retirement incomes. Germany and Japan are notable examples. Finally, many countries have long had broad coverage of voluntary private pensions because of the low level of public pensions, especially for middle and high earners. Examples include

many English-speaking countries, such as Canada, Ireland, the United Kingdom and the United States, where private pensions currently reach 40% or more of employees. Belgium, Germany, Japan and Norway also achieve this degree of coverage.

4.1 Mandatory private pensions

45. Figure 3 highlights the five OECD countries that “privatised” part of their pension provision. It shows how reforms have affected the composition of the average pension level and average pension wealth (*i.e.*, the discounted stream of average pension payments in the future) from public and private sources.

Figure 3. The changing public-private balance in pension provision



Source: OECD (2007).

46. The most radical change took place in Mexico, where all of the pension system was public before the reform and now only a small public component is retained. (However, it will be decades before the new system is fully in place: see section 5.2 below). Three other countries – Hungary, Poland and the Slovak Republic – also started with an entirely public system before the reforms and moved to mixed systems. In Poland and the Slovak Republic, more than half of the pension promise will be delivered through the private sector, while in Hungary the public scheme still accounts for more than 60%.

47. Sweden stands out in this group of countries, since private employer-based pension schemes have always been important in pension provision. After the pension reform, the private component increased to just under 50% of the pension promise. This was achieved partly by introducing a new mandatory, privately managed DC component.

4.2 *Voluntary private pensions*

48. In countries with relatively small public pensions, individuals will need to make extra, voluntary, private savings to ensure that their living standards do not decline sharply as they move into retirement. Figure 4 shows the *gross* replacement rate – pension in retirement relative to earnings when working – for average earners in OECD countries. The projected gross replacement rate from mandatory pension schemes for an average earner with a full career ranges from 31% of individual earnings in the United Kingdom to 96% in Greece. The wide range of *mandatory* replacement rates across countries implies that the need for additional retirement income from *voluntary* savings varies considerably.

49. The 11 countries at the bottom of the chart, which have below-average mandatory replacement rates, are the focus here. What level of voluntary, private pension savings would be needed to deliver an overall gross replacement rate in these countries that equalled the OECD average? This is obviously an arbitrary target but it is useful to set a benchmark relative to all OECD countries, including those with mainly mandatory retirement provision. The difference between the national mandatory replacement rate and the OECD average of 59% is here called the “pension gap”. Along with all six of the mainly English-speaking members of the OECD – Australia, Canada, Ireland, New Zealand, the United Kingdom and the United States – mandatory gross replacement rates are below the OECD average in four continental European countries – Belgium, the Czech Republic, France and Germany – and in Japan.

50. In the United Kingdom, private pension savings would need to deliver a replacement rate of 28% to bring the overall pension up to the level of the OECD average. France has the smallest retirement savings gap of the 11 countries analysed: 7.5% of earnings. For the 11 countries as a whole, the replacement rate from mandatory pensions is 40.6% for average earners, giving a retirement-savings gap of 18.2% on average.

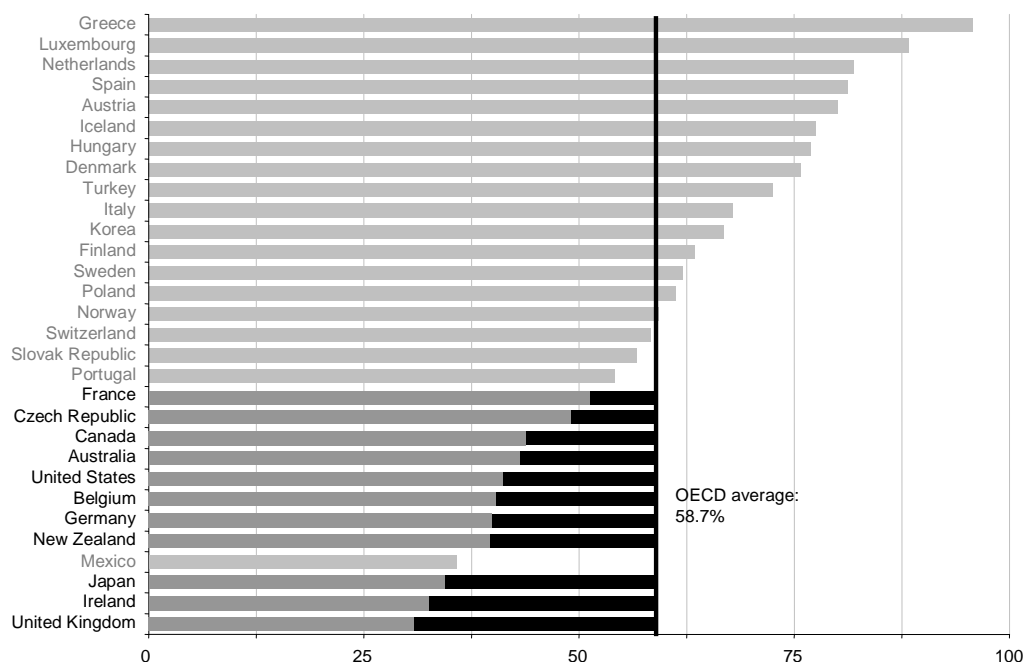
51. The savings effort required to fill the pension gap obviously varies with the size of the gap: contributions would need to be larger in the United Kingdom than in France, for example. But it also depends on how long the pension is likely to be paid, *i.e.*, on life expectancy, as well as the value of the pension, which in turn is largely determined by investment returns on pension savings. Life expectancy in France and Japan is much higher than it is in the Czech Republic. The length of time over which the pension is paid also depends on the age of retirement. The normal pension age is 65 in eight of the countries, but it is 60 in France, 62 in Hungary and (will be) 67 in the United States.⁸

52. The normal pension age also affects the duration over which contributions are made. On the baseline assumption of labour-market entry at age 20, individuals who contribute for a full career will normally pay into their pension funds for 45 years, although in some countries this could be as low as 40 or as high as 47 years. Taking account of all these factors – differences in pension age, life expectancy and the pension gap – it is possible to calculate the percentage of earnings that individuals would need to contribute to achieve an overall – mandatory plus voluntary – replacement rate equal to the OECD average.

8. A detailed, step-by-step illustration of the calculations is set out in OECD (2007), pp. 83-84.

Figure 4. The pension gap

Gross replacement rate for an average earner from mandatory pension schemes and difference from OECD average replacement rate



Source: OECD (2007).

53. The results are shown in Figure 5. We start at the left-hand side of the chart with the situation of workers who contribute to the private pension for a full career. The United Kingdom has the largest replacement-rate gap and the highest required contribution rate. Japan's replacement-rate gap is four percentage points lower than in the United Kingdom but life expectancy is longer. The required contribution rate in Japan is 6.7% compared with 6.9% in the United Kingdom. France has the smallest replacement-rate gap, but the normal retirement age of 60 and life expectancy above the OECD average together increase the required contribution rate compared with countries with normal retirement at 65 or more. The required contribution rate is just 2.6% in France and the Czech Republic.

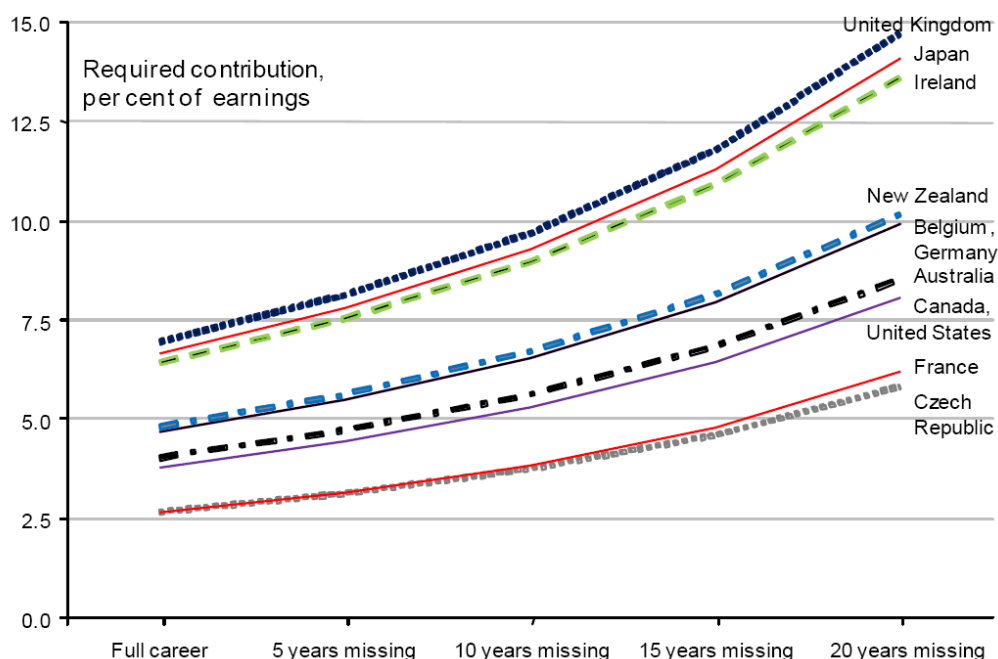
54. However, people are unlikely to spend their whole working lives covered by voluntary, private pensions precisely because they are voluntary. Figure 5 also shows how the number of years over which people contribute affects the contribution rate required to fill the pension gap.

55. At the left-hand side of the chart is the required contribution rate with a full contribution history – from age 20 to national normal pension age. The next entry on the chart shows the situation with five years missing from the contribution history, *i.e.*, assuming people delay starting their private pension until age 25. With ten missing years – at the centre of the chart – the required contribution rate in the United Kingdom increases to nearly 10%, compared with 7% with a full career. With 20 missing years, contributions need to be nearly 15% to plug the retirement-savings gap.

56. In Ireland and Japan, the necessary contribution rates are a little below the rates for the United Kingdom. In Belgium, Germany and New Zealand, the required contribution rate is around 4.6% for a full career, 6.7% with ten missing years and 10% with 20 missing years.

Figure 5. How years of contributions affect the pension gap

Contribution rate needed to reach the OECD average replacement rate for average earners by years of contributions



Source: Source: OECD (2007).

5. Conclusions: pension challenges

57. Despite the many, sometimes radical, pension reforms in OECD countries over the past two decades, there is no reason for complacency: the pension-reform agenda is far from finished.

5.1 Fiscal and financial challenges

58. Some countries still need to make major reform efforts. For example, two of the countries with the highest pension spending in 1990 (Greece and Spain) saw little or no change in their pension systems over the same period. Indeed, in Greece pension spending rose to around 12% of GDP in 2005 compared with 10% in 1990. In contrast, reforms in France, Germany and Sweden, for example, are projected to slow or even reverse the growth in public pension spending.

5.2 Pace of implementation

59. The transition to the new rules is sometimes very slow, meaning that the positive impact of the reform is long deferred. This is the case in Austria, Italy, Mexico and Turkey. The Italian reform only affected workers who had been in the system for 18 years or less, so the new system will only be fully in place once labour market entrants of 1995 have retired (*i.e.*, from 2017 onwards). Under the proposed reform in Turkey, the new retirement age of 65 will only be reached for men retiring in 2043 and for women even later. In Mexico, people in the labour market at the time of reform have a government guarantee that their pension will be at least as large as under the old rules. In Austria, benefit cuts cannot exceed 10%. In Germany, in contrast, pension reforms have often had an immediate effect, because changes in the pension-point value affect all existing pension entitlements, including pensions in payment.

5.3 *Extending working lives*

60. Early retirement and its costs are still a problem in many countries. The standard retirement age has been increased to 65 in most OECD countries and, in some cases, even beyond. However, as documented in OECD (2006), many routes for early exit from the labour market are still open. The average effective retirement age for men was below 60 in eight OECD countries – including Belgium, France, Hungary and Italy – over the period 1999-2004. Germany's average retirement ages – of 61 for men and 60 for women – are below the OECD average, but by no means are they the lowest.

5.4 *Will voluntary pension savings be enough?*

61. Many pension systems rely increasingly on voluntary private pensions to provide incomes in old age. This raises three concerns:

- **Will enough people save for retirement?** In most of the dozen OECD countries where voluntary, private pensions are needed to achieve an adequate income in old age, coverage of such schemes is non-negligible. Around half of employees contribute to occupational pensions; coverage is higher once personal plans are taken into account. But this is still far from universal; many governments are therefore committed to extending coverage.
- **Will people save enough of their earnings to ensure a decent retirement income?** Data on average contribution rates are even more difficult to obtain than information on coverage. Preliminary evidence shows average (mean) contribution rates for those covered of 8.5% in Canada, around 9% in the United Kingdom and United States and 10% in Ireland.
- **Will people save for long enough?** These contribution rates would be sufficient to fill the pension gap highlighted in Figure 5, but only if people contribute for most of their working lives at these rates. Unfortunately, private-pension coverage data are a “snapshot” whereas lifetime coverage and contributions determine individual's retirement incomes. It is often not possible, for example, to know whether snapshot coverage of 50% implies that half the workforce contributes for every year of their working lives or the whole workforce contributes for half of their working lives. The implications for pension policy are very different if the target is to get more people to contribute or to get the same people to contribute for more of their careers.

62. Coverage of private pensions in Germany is relatively good compared with some other OECD countries where private pensions are important: OECD data suggest around 68% of people have a personal or an occupational pension, compared with 55-60% in Canada, Ireland, the United Kingdom and the United States.⁹

63. In particular, private pensions in Germany appear to have included groups that are traditionally hard to reach: the young and the low-paid. For example, coverage is over 40% for people with low earnings (the bottom quintile or 20% of the distribution). This compares with a little over 10% in Ireland, around 15% in Canada, 20% in the United Kingdom and 25% in the United States. However, there are two important caveats. First, these other countries have redistributive retirement-income regimes that mean that low-income workers do not need to save for their own retirement. This is not the case in Germany (see below). Secondly, there is evidence that many of the covered individuals are non-working women married to reasonably well-off men.

9. Antolín and Whitehouse (2008).

64. The reason for this is the scale of the fiscal incentives offered for private pensions. OECD calculations showed that Germany had the second largest tax subsidy of all 30 OECD members. This amounted to a government contribution of 36% of those made by individuals and employers, compared with an average in OECD countries of 22%.¹⁰ Moreover, the new private pension arrangements have been given still larger incentives in order to raise take-up. The concern is that the tax preferences are expensive (in terms of revenues foregone), meaning that public dis-saving offsets individual retirement saving. There is strong evidence that they are inefficient, in that much of the saving would have happened anyway without the incentive.

65. Given these problems with tax incentives/subsidies for private pensions, there has been much discussion recently in OECD countries about the respective merits of alternative approaches to expanding the coverage of private pensions (see Box 1).

Box 1. Compulsion versus "soft compulsion" in private-pension provision

The most obvious route to encourage private-pension provision is through **compulsion**, which achieves both high overall coverage and a uniform distribution of coverage across age and income levels. This was the policy adopted in Australia, Iceland, Norway and Switzerland, where voluntary private pensions historically had broad coverage. The main argument for compulsion is that it protects people from the regret of not having saved enough for their retirement when they were younger. It also protects societies from having to pay for safety-net benefits for those feckless people who did not provide for their old age.

An important, but sadly unresolved question is whether compulsion is necessary. Are people myopic about saving for their retirement? Unfortunately, the evidence is mixed on this key issue. Furthermore, compulsion has some drawbacks. First, even if individuals are myopic, it does not mean that greater mandatory pension provision is always a good thing. An appropriate target replacement rate is difficult to determine but important to get right. The losses in terms of individual welfare from forcing people to over-save can be as great as the losses from myopia and under-saving. For example, resources diverted to retirement savings might come at the expense of devoting the necessary amounts to raising and educating children. Secondly, formal pension plans are not the only way people can and do save for their retirement. People might want to invest in property or their own businesses. This perfectly rational behaviour is not possible with large, mandatory savings through formal pension schemes. Thirdly, mandatory contributions to pensions are often perceived as a tax, which is likely to discourage people from working. Finally, the providers of voluntary pension arrangements – especially occupational pension schemes – have often opposed compulsion because it would crowd out these existing plans. There is also the risk that existing provision is levelled down to the amount of the mandate.

Compulsion's disadvantages and the risk of under-saving with purely voluntary private pensions, has prompted the development of a "third way": automatic enrolment. The idea is that people have to opt out of saving for retirement rather than opt in. It is often called **soft compulsion**. Surveys routinely find that people agree that saving for retirement is important and that they feel that they should be planning for old age. Unfortunately, this often does not translate into action: inertia and procrastination predominate.¹¹ An obvious reason for this is that the process of signing up for a pension plan can be long and complex. Indeed, many people say that retirement planning is "more stressful than going to the dentist" (OECD, 2005b)! Automatic enrolment is designed to capture such people and turn them into retirement savers. While some employer-provided plans in the United Kingdom and the United States have long used automatic enrolment to increase coverage among their employees, the policy is now being adopted nationally. New Zealand's KiwiSaver scheme has been operating since the middle of 2007 and the United Kingdom will introduce a new National Pension Saving Scheme on the same lines. There have also been proposals to introduce automatic enrolment for the salary conversion ("Entgeltumwandlung") plans in Germany (Leinert, 2004, 2005). Unfortunately, the evidence on the effectiveness of these schemes is very limited. However, the introduction of a scheme with automatic enrolment does not preclude shifting to compulsion at a later time should take-up prove small.

10. Yoo and de Serres (2004a,b).

11. See, *inter alia*, Beshears *et al.* (2006), Leinert (2005) and Choi *et al.* (2004).

5.5 Adequate incomes in old age

66. The defeat of old-age poverty is one of the triumphs of social policy in the second half of the 20th century. Being old in an earlier era typically meant being poor. Now, according to the OECD income-distribution data, poverty rates for older people are lower than for the population as a whole in all but seven OECD countries.¹²

67. Countries that have introduced a closer link between pensions and earnings – such as Italy, Poland and the Slovak Republic – have cut pensions for low earners the most. This increases the risk of being poor in retirement for people with low incomes, who also tend to have incomplete contribution records.

68. A future rise in old-age poverty is also a concern in Germany and Japan, where across-the-board cuts in public pensions leave low earners with the smallest relative retirement incomes in the 30 OECD countries, bar Mexico. The minimum pension in OECD countries is worth, on average, 29% of national average earnings. But in Germany, the social-assistance benefit for older people is the equivalent of just 19% of average earnings, the lowest in the OECD after Japan. With lower public pensions in future, more retirees will be reliant on this benefit than the relatively low figure of 2% currently.¹³

69. Germany's pension reforms have, most likely, achieved fiscal and financial sustainability. However, there are some significant challenges that remain. First, a stronger safety-net, perhaps including a minimum pension, will be needed to avoid a resurgence in old-age poverty. Secondly, a way of encouraging people to contribute to private pensions is needed that avoids excessive fiscal costs.

6. Concluding remarks

70. Since the early 1990s, pension reform has been high on the agenda in many OECD countries. Governments have either undertaken far-reaching, structural pension reforms or adopted a series of small reforms which, taken together, affect future pension entitlements substantially. These reforms, like pension systems themselves, have had many diverse and complex features. They have included, among other things, increases in pension ages, changes in the way that benefits are calculated and smaller real pension increases than in the past. However, despite the different approaches, there is a clear underlying trend towards a reduced pension promise for today's workers, when compared with past generations. This is necessary to ensure the financial sustainability of pension systems for both current and future retirees.

71. To the extent that this objective is achieved, this is good news. But there is no reason for complacency. Even though pension reforms were substantial in the OECD as a whole, the agenda remains unfinished. This unfinished agenda includes five main issues:

- i) Some countries still need a fundamental overhaul of their public pension schemes;
- ii) Some major pension reforms are being phased in too slowly;
- iii) While a common response to a reduced pension promise is to exhort workers to save more for their own retirement, saving through voluntary plans might not be sufficient to ensure adequate replacement of pre-retirement incomes;

12. See Förster and Mira d'Ercole (2005).

13. Social Protection Committee (European Union, 2006).

- iv) Many pension systems still encourage early retirement even though the standard retirement age has been raised to 65 years in most OECD countries and, in some cases, even beyond; and
- v) Some of the reforms might result in a greater risk of poverty in old-age for low-income workers.

72. Pension reform can be politically difficult. But the experience of the OECD countries over the past 10-15 years suggests that obstacles to pension reform are not insuperable: more than half of them have had major changes over that period. The pension-reform laggards should take heart from this experience and press ahead with necessary changes to their retirement-income systems.

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