



OECD Social, Employment and Migration Working Papers
No. 69

Filling the Pension Gap:
Coverage and Value of
Voluntary Retirement
Savings

**Pablo Antolín,
Edward Whitehouse**

<https://dx.doi.org/10.1787/227200770711>

Unclassified

DELSA/ELSA/WD/SEM(2009)6

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

29-Jan-2009

English text only

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS
EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS COMMITTEE

DELSA/ELSA/WD/SEM(2009)6
Unclassified

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS NO. 69

FILLING THE PENSION GAP: COVERAGE AND VALUE OF VOLUNTARY RETIREMENT
SAVINGS

Pablo Antolín and Edward Whitehouse

JEL Classification: D14; G23; H24; H31; J14

All Social, Employment and Migration Working Papers are now available through OECD's Internet website at <http://www.oecd.org/els>

JT03258901

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English text only

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS

<http://www.oecd.org/els>

**OECD SOCIAL, EMPLOYMENT AND MIGRATION
WORKING PAPERS**

<http://www.oecd.org/els/workingpapers>

This series is designed to make available to a wider readership selected labour market, social policy and migration studies prepared for use within the OECD. Authorship is usually collective, but principal writers are named. The papers are generally available only in their original language – English or French – with a summary in the other.

Comment on the series is welcome, and should be sent to the Directorate for Employment, Labour and Social Affairs, 2, rue André-Pascal, 75775 PARIS CEDEX 16, France.

The opinions expressed and arguments employed here are the responsibility of the author(s) and do not necessarily reflect those of the OECD

**Applications for permission to reproduce or translate
all or part of this material should be made to:**

**Head of Publications Service
OECD
2, rue André-Pascal
75775 Paris, CEDEX 16
France**

Copyright OECD 2009

ACKNOWLEDGEMENTS

Pablo Antolín works in the Financial Affairs division of OECD. Edward Whitehouse is based in the Social Policy division. Delegates to the OECD Working Parties on Social Policy and on Private Pensions offered useful comments. Colleagues in the OECD Secretariat also provided valuable contributions: in particular, Anna D'Addio, Martine Durand, John P. Martin, Mark Pearson, Monika Queisser, Andrew Reilly, Fiona Stewart, Juan Yermo and Asghar Zaidi. However, the paper presents the personal views of the authors.

SUMMARY

The current generation of workers can expect lower pension benefits in retirement than the current generation of pensioners. Private, voluntary pension savings will therefore play a greater role in providing for old age. This paper calculates the size of the “pension gap”: the difference between the benefits from mandatory retirement-income provision and a target pension level. It then computes the amount that people would need to save to achieve the target.

Data on coverage of private, voluntary pension schemes in a range of OECD countries are then presented. The paper also shows how coverage varies with age and earnings. The results show significant gaps in coverage, particularly among low earners and younger workers. The effect could be a resurgence of old-age poverty when these generations reach retirement. Data on contributions to private pensions show that these are, on average, at a level likely to fill the pension gap. Expanding coverage rather than raising contribution rates should therefore be the policy priority.

Five policy options for increasing coverage are assessed: (i) mandating private pensions; (ii) “soft compulsion”, which is automatic enrolment in private pensions but with an opt-out; (iii) facilitating access to the means for saving for retirement; (iv) preferential tax treatment of retirement savings; and (v), improving financial awareness.

RESUME

L'actuelle génération de travailleurs peut s'attendre à toucher des prestations de retraite inférieures à celles que perçoit l'actuelle génération de retraités. Les régimes privés, volontaires, d'épargne-retraite seront donc appelés à jouer un plus grand rôle en tant que source de revenu pour les personnes âgées. Le présent document évalue l'ampleur du déficit d'épargne-retraite : c'est-à-dire de la différence entre les prestations servies par les régimes obligatoires de retraite et l'objectif visé en matière de pension. Il calcule ensuite les sommes que les salariés devraient épargner pour atteindre cet objectif.

Le document présente ensuite des données sur la couverture des régimes de retraite volontaires privés dans un certain nombre de pays de l'OCDE. Il montre aussi que cette couverture varie fortement en fonction de l'âge et des gains et qu'elle est particulièrement réduite dans le cas des titulaires de bas salaires et des jeunes travailleurs. La conséquence pourrait être une résurgence de la pauvreté des personnes âgées, lorsque ces générations atteindront l'âge de la retraite. Les données sur les cotisations aux régimes de pensions privés montrent qu'elles se situent, en moyenne, à un niveau qui devrait permettre de combler le déficit d'épargne retraite. L'extension de la couverture plutôt que l'augmentation des taux de cotisation, devrait donc être considérée comme la priorité d'action.

Cinq lignes d'action pour étendre cette couverture sont évaluées : (i) l'adhésion obligatoire à des régimes de pension privés ; (ii) la contrainte douce, c'est-à-dire l'inscription automatique à des régimes de pensions privés, avec possibilité de refuser; (iii) un accès facilité aux dispositifs d'épargne-retraite ; (iv) l'application d'un régime fiscal préférentiel aux revenus épargnés en vue de la retraite et (v) le développement de l'éducation financière.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	3
RESUME.....	4
1. Introduction.....	6
2. The pension gap.....	6
2.1 Measuring the pension gap for average earners.....	6
2.2 Filling the pension gap: average earners.....	9
2.3 The pension gap and individual earnings.....	10
2.4 Is the OECD average replacement rate a suitable benchmark?.....	11
2.5 Filling the pension gap: the effect of individual earnings.....	12
2.6 Filling the pension gap: the effect of taxes and means-testing.....	13
3. Coverage of voluntary private pensions.....	14
3.1 Overall coverage.....	15
3.2 Coverage by age.....	15
3.3 Coverage by earnings.....	17
3.4 Conclusions.....	18
4. Contributions to private pensions.....	18
5. Policies to encourage private pension savings.....	19
5.1 Compulsion.....	20
5.2 Soft compulsion.....	22
5.3 Promoting savings in private pensions by facilitating access.....	25
5.4 Promoting savings in private pensions with tax incentives.....	25
5.5 Promoting savings in private pensions with financial education.....	27
REFERENCES.....	28
Tables	
Table 1. Coverage of voluntary private pension plans selected OECD countries.....	15
Table 2. Total contribution rates in voluntary, defined-contribution pension plans.....	19
Table 3. Median employee and employer contributions in 401(k) plans in the United States by age and earnings, 2001 (% of earnings).....	19
Figures	
Figure 1. The pension gap.....	7
Figure 2. Filling the pension gap.....	10
Figure 3. The pension gap and individual earnings.....	11
Figure 4. Preferred income in retirement relative to when working by income level, United Kingdom.....	12
Figure 5. Filling the pension gap at different earnings levels.....	13
Figure 6. Filling the pension gap: the impact of taxes and means-testing.....	14
Figure 7. Coverage of voluntary private pension plans by age.....	16
Figure 8. Coverage of voluntary private pensions by earnings.....	17
Figure 9. Pensioners' incomes as a percentage of population incomes in OECD countries, mid 2000s.....	21
Figure 10. Tax incentive for private pensions relative to benchmark savings.....	26
Boxes	
Box 1. A brief guide to the OECD pension models.....	8

1. Introduction

1. Most OECD countries have seen major pension reforms over the last 10-15 years. The main, although not the sole, motivation for these changes has been to strengthen the financial sustainability of public pension systems. Cuts in future public pension benefits are one of the main ways that governments have improved the affordability of pension systems. Indeed, in the 16 OECD countries with the most wide-ranging reforms, lifetime benefits have been cut on average by 22% for men and 25% for women.¹

2. The scale of such cuts implies a significant rebalancing of responsibility for pension provision between the public and private sectors. Indeed, this amounts to implicit or explicit “privatisation” of part of the retirement-income system. Today’s workers will either need to save more in voluntary, private pension plans, retire later or see a lower income in old-age relative to earnings when working than under pre-reform parameters and rules.

3. This paper begins by exploring the difference in mandatory pension entitlements between OECD countries. It then focuses on 11 countries with particularly low mandatory pensions. In these countries, many people who fail to save will see a precipitate drop in living standards as they move from work into retirement. Based on the shortfall in replacement rates from mandatory schemes in these countries compared with the OECD average, the OECD pension models are then used to calculate the proportion of earnings that should be saved in order to fill this pension gap.

4. The analysis begins with the case of individuals on average earnings. However, some pension reforms recognised that across-the-board benefit cuts might increase the risk of inadequate income in retirement and, so, of resurgence in old-age poverty. As a result, some countries increased targeting of public pension spending on low-income pensioners. In these cases, middle and high earners are the groups that will need to save voluntarily to preserve the living standard in retirement offered by the pre-reform system. The analysis of pensions therefore looks at the position of people across the earnings range.

5. Having established who needs to save for retirement and how much they need to save in different countries, Sections 3 and 4 look at the available data on retirement-savings behaviour. Section 3 looks at coverage of voluntary, private pensions in a range of countries. It starts with coverage in aggregate, but then goes on to break these figures down to show how coverage varies with age and income. Section 4 looks at information on contributions. Again, it begins with average contribution rates and goes on to show how these vary between different groups.

6. Finally, section 5 explores the different policies that can be used to encourage private retirement savings. The most obvious policy is to mandate participation. However, more flexible approaches include soft compulsion (*e.g.* automatic enrolment with the possibility of opting out); facilitating individuals’ access to retirement-saving instruments; preferential tax treatment of retirement savings; and policies to improve financial awareness.

2. The pension gap

2.1 *Measuring the pension gap for average earners*

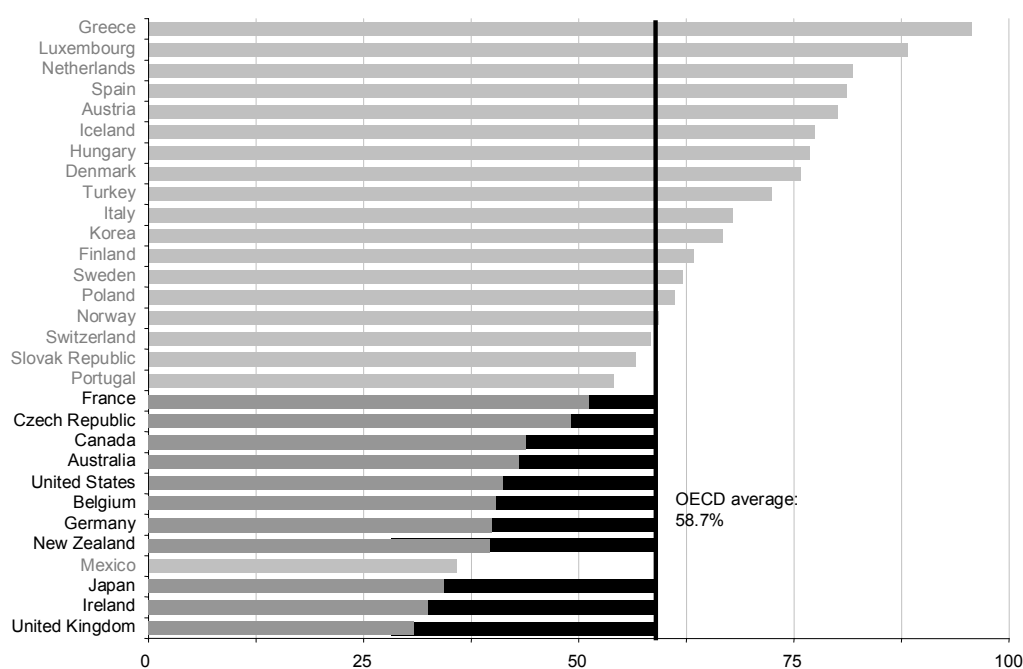
7. The replacement rate – the relationship between income in retirement and earnings when working – is widely used to illustrate cross-country differences in pension systems. Figure 1 shows the projected gross replacement rate for average earners calculated using the OECD pension models. The

1. See OECD (2007, section II.1), Martin and Whitehouse (2008) and Whiteford and Whitehouse (2007) for detailed description and analysis of pension reforms in OECD countries.

modelling, briefly summarised in Box 1, considers the case of an individual entering the labour-market in 2004 and remaining in the pension system until normal retirement age. The calculations include all *mandatory* sources of retirement income.

Figure 1. The pension gap

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



Source: OECD pension models. See OECD(2005,2007) for a description.

8. Figure 1 shows huge variation in replacement rates: from 31% of earnings in the United Kingdom to 96% in Greece. The average gross replacement rate for the 30 OECD countries is almost 59%. The wide range of mandatory replacement rates implies that the need for additional retirement income from voluntary savings varies considerably. However, to calculate the varying need for retirement savings in different countries a benchmark or target replacement rate is needed.

9. There are many factors that might affect the desired replacement rate: the upshot of the debate is that there is no identifiable optimum replacement rate. As a simple expedient, therefore, the benchmark replacement rate used here is the average replacement rate from mandatory pensions in all OECD countries. The difference between the replacement rate from the mandatory pension system and the OECD average is here called the “pension gap”.

Box 1. A brief guide to the OECD pension models

The parameters and rules of pension schemes are complex and retirement-income systems typically have multiple components. The OECD pension models aim to calculate prospective pension entitlements promised in the future to today's workers from all mandatory parts of the pension system.

Pension entitlements that are calculated and compared are based on the parameters and rules that are currently legislated. All value parameters are those for the calendar year 2004. Changes in rules that have already been legislated, but are being phased-in gradually, are assumed to be fully in place from the start. It is assumed that the pension rules remain unchanged thereafter.

The calculations show the pension entitlements of a worker who enters the system today and has a full career, defined as uninterrupted work from age 20 until the standard pension-eligibility age. Although this is clearly unrepresentative of actual labour-market experience, it is the only assumption that can generate comparable results. Most pension systems provide credits for periods in education, military service, unemployment, child rearing *etc.* Simply assuming that people who are not in work are not covered during career gaps would produce misleadingly low pension entitlements for people with career gaps.

Entitlements are calculated for a single person. This is because the rules governing benefits for married couples can be very complicated and because the results depend on assumptions over both partners' career histories.

The results include all mandatory pension schemes for private-sector workers, regardless of whether plans are publicly or privately provided. Plans with near-universal coverage – more than 80% of employees – are treated as “quasi-mandatory” and so are included in the baseline results. Resource-tested benefits for which retirees may be eligible are also included and the comparisons assume that all pensioners who are entitled take up these benefits. Where there are broader means tests, taking account also of assets, the income test is taken as binding. It is assumed that the whole of income during retirement comes from the mandatory pension scheme when calculating these entitlements.

The benefits from defined-contribution plans are assumed to take the form of a price-indexed life annuity. The value of this annuity is calculated at an actuarially fair price, based on population mortality data from the UN/World Bank database.

10. The comparisons are based upon a single set of economic assumptions for all countries to facilitate cross-national comparisons that reflect differences in pension systems and policies alone. The baseline economic assumptions are:

Growth in average real earnings	2% per year
Individual earnings	in line with economy-wide average
Price inflation	2.5% per year
Discount rate	2% a year
Mortality rates	country-specific projections for 2040

11. Mandatory gross replacement rates for workers on average earnings are significantly below the OECD average in all six of the mainly English-speaking members of the OECD: Australia, Canada, Ireland, New Zealand, the United Kingdom and the United States. This is also the case in four continental European countries – Belgium, the Czech Republic, France and Germany – and in Japan.²

2. In Mexico, a large informal sector means that many workers are not covered by the mandatory pension system. Moreover, the new pension scheme, based around mandatory individual accounts, guaranteed all workers in the labour market at the time of reform that their pensions would not fall below those promised

12. In the United Kingdom, private pension schemes would need to deliver a replacement rate of 28% to bring the overall pension of an average earner up to the level of the OECD average. France has the smallest pension 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. This implies a pension gap of 18.2% on average.

2.2 *Filling the pension gap: average earners*

13. How much will people have to contribute to voluntary, private pensions to lift overall replacement rates from the national, mandatory level to the average for OECD countries? For reasons of simplicity and comparability, the calculations assume that people with voluntary pensions have a defined-contribution (DC) plan, where the value of the benefit depends on contributions and the investment returns that they earn. A detailed, step-by-step illustration of the calculations is set out in OECD (2007), pp. 83-84.

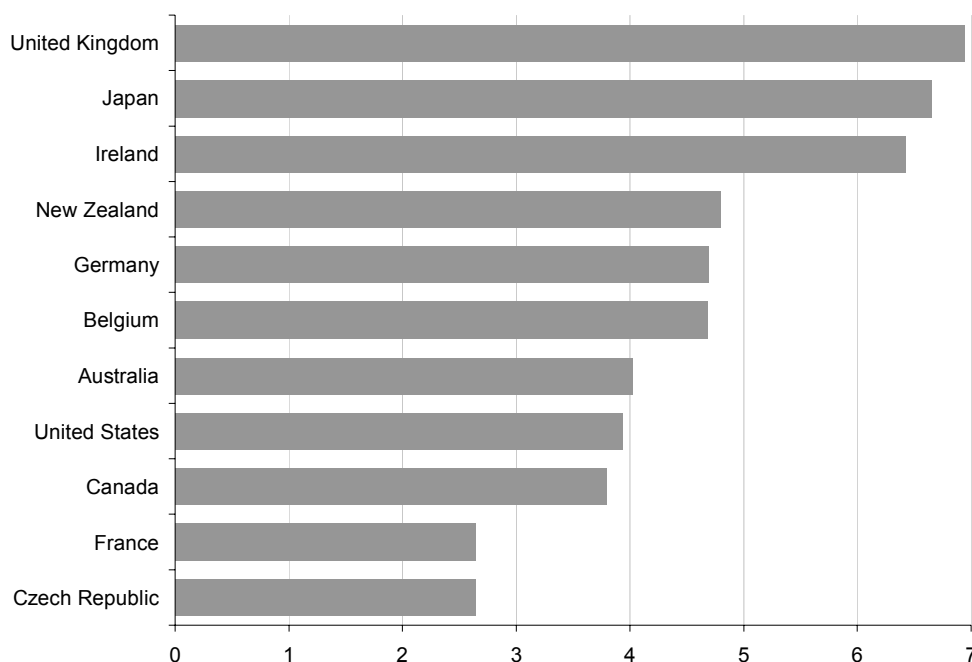
14. The modelling assumes an annual real return of 3.5% on pension savings, net of administrative charges, for all countries. People are assumed to contribute for a full career, from age 20 to the normal pension age for each country. Since the latter varies between 60 and 67, the period of contributions varies from 40 to 47 years, although it is mostly 45 years. Since the target is a particular replacement rate, the rate of growth of earnings is also relevant. This is assumed to be 2% a year in real terms. At retirement, the accumulated capital is converted to an annuity. The terms of this conversion will depend on the pension eligibility age and on national mortality rates.

15. Figure 2 shows the percentage of earnings that an average earner would need to pay into a private pension plan to plug the retirement-savings gap in the respective country. The United Kingdom has the largest replacement-rate gap and the highest required contribution rate. Japan's replacement-rate gap is 4 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 among the countries studied. However, its normal retirement age of 60 and the fact that life expectancy is above the OECD average together increase the required contribution rate compared with countries with normal retirement at 65 or more. The contribution rate needed to boost the pensions of average earners to the OECD average level is 2.6% in France and the Czech Republic.

by the old pension system. Thus, the issue of the retirement-savings gap in Mexico has a very different character from that in other OECD countries.

Figure 2. Filling the pension gap

Contribution rate with a full history required for average earner to reach OECD average gross replacement rate



Source: OECD pension models.

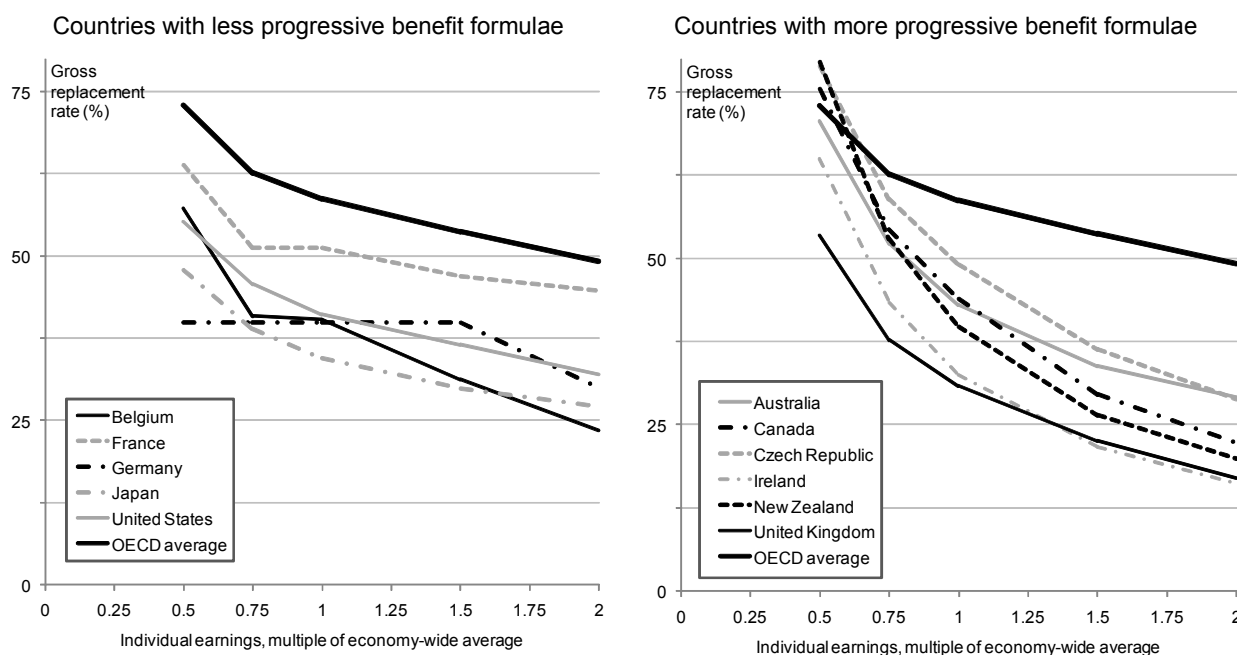
2.3 *The pension gap and individual earnings*

16. The replacement rates from mandatory pension systems often vary with individual earnings. For lower earners, for example, safety-net benefits tend to play a more important role in providing retirement incomes. This can mean higher replacement rates than received by average earners. At the other end of the scale, ceilings on pensionable earnings can mean lower replacement rates for higher earners.

17. Figure 3 shows how replacement rates vary with earnings in 11 countries, along with the OECD average, which acts as the benchmark for the calculation. Workers with 50% of average earnings have an average replacement rate of 73% across the 30 OECD countries, compared with 59% for workers on mean earnings. At double average earnings, the replacement rate averages 49%. How do the 11 countries measure up against this benchmark?

18. In the left-hand panel of Figure 3, the pension gap is broadly constant with earnings in France, Japan and the United States. In Germany, the replacement rate from the mandatory system is constant from 50% of average earnings to the ceiling of 150% of average earnings. The pension gap, relative to the OECD average replacement rate by earnings, is therefore larger for *low* earners than it is for average earners.

Figure 3. The pension gap and individual earnings



Note: Countries have been grouped according to the OECD index of progressivity of pension benefit formulae. See OECD (2007), pp. 44-47.

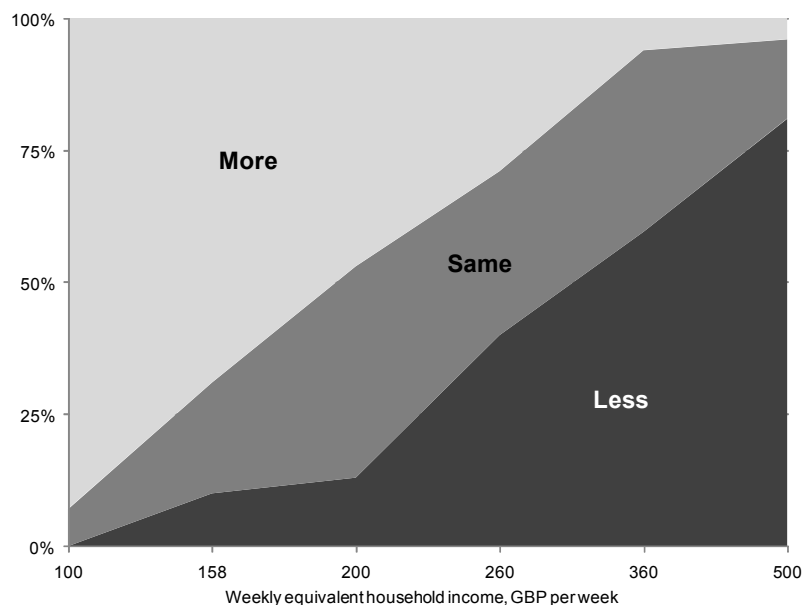
Source: Source: OECD pension models.

19. The countries in the right-hand panel show the opposite pattern. Indeed, in Canada, the Czech Republic and New Zealand, the mandatory replacement rate for low earners exceeds the OECD average of 73%: there is no pension gap for these workers. The gap is also very small for low-paid Australians. The pension gap increases with earnings in all six countries at the right of Figure 3. For high earners (at 200% of mean earnings), mandatory replacement rates are less than 25% in Canada, Ireland, New Zealand and the United Kingdom, compared with the benchmark OECD average of nearly 50%.

2.4 Is the OECD average replacement rate a suitable benchmark?

20. The analysis uses the OECD average replacement rate *at each level of earnings* as the benchmark against which the pension gap is measured. This implies a higher replacement-rate target for low earners and *vice versa*.

21. Most OECD countries have retirement-income systems that exhibit this pattern: in only eight of them is there little significant difference between replacement rates at different levels of earnings (OECD, 2007, pp. 44-47). Moreover, survey evidence often suggests that this reflects people's preferences. Figure 4 illustrates this with some results from the United Kingdom. People were asked whether they would want a retirement income above, below or about the same as their current household income (taking account of the costs of paying for the pension). Of the poorest people, fully 93% said that they would like a replacement rate of over 100%. In contrast, over 80% of richer people preferred a lower income in retirement than when working. Both national practice and individual preferences therefore point to a target replacement rate that declines with individual earnings. The benchmark used here exhibits this pattern.

Figure 4. Preferred income in retirement relative to when working by income level, United Kingdom

Source: Pensions Commission (2004), Table 4.4.

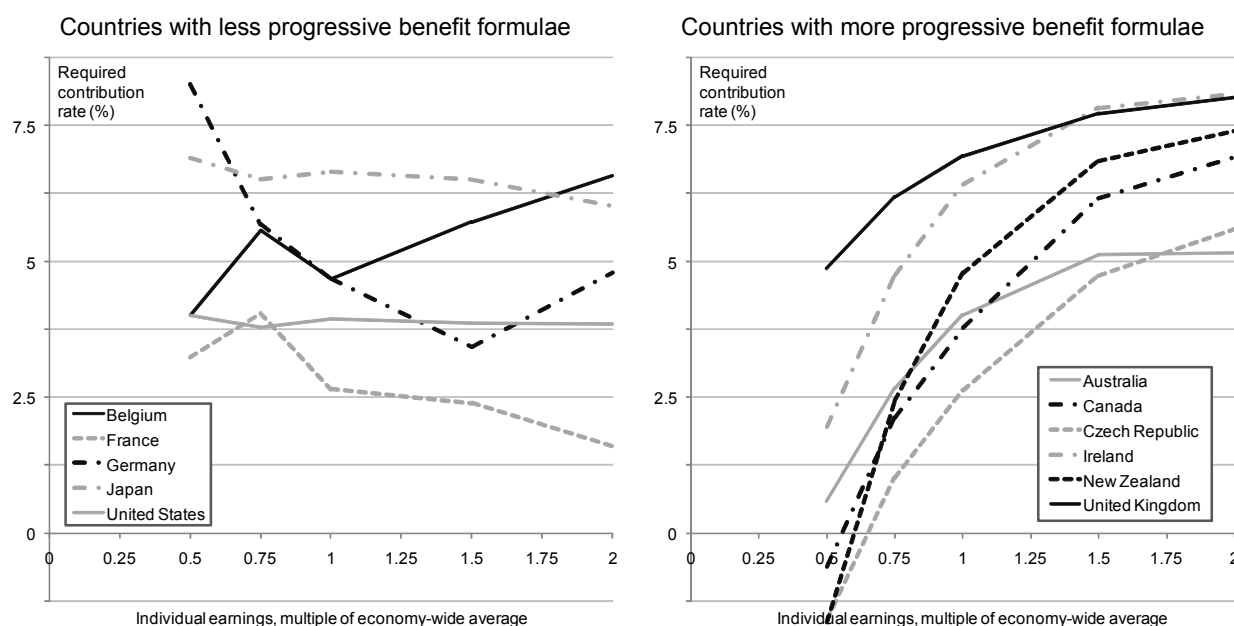
2.5 *Filling the pension gap: the effect of individual earnings*

22. Figure 5 explores the implications of differences in mandatory replacement rates by earnings on the need to save for old age to reach the benchmark, overall replacement rate. In the left-hand panel, workers in Japan and the United States need to save a similar proportion of earnings across the range: around 7% and 4% of pay respectively. Because replacement rates in Germany are constant, to reach the higher target replacement rate for low earners would require much higher contributions of 8% of pay compared with around 4.5% for average earners.

23. In the right-hand panel, the required contribution rate increases with earnings. For example, in Australia, Canada, the Czech Republic and New Zealand, there is little or no need for low earners to provide for their own retirement because mandatory schemes already do this. For average earners, the contribution rate needed to reach the benchmark replacement rate is between 2.5% and 5.0%, while for high earners it is 5.0-7.5%. Even in the United Kingdom, which has the largest pension gap for low earners, the contribution rate to fill the gap increases from less than 5% for the low-paid to 7% for average earners and over 8% for the high-paid.

Figure 5. Filling the pension gap at different earnings levels

Contribution rate with a full history required to reach OECD average gross replacement rate by earnings



Note: countries have been grouped according to the OECD index of progressivity of pension benefit formulae. See OECD (2007), pp. 44-47.

Source: OECD pension models.

2.6 Filling the pension gap: the effect of taxes and means-testing

24. The calculations so far have looked only at gross pension entitlements whereas it is obviously income net of taxes and contributions that determines living standards, both in work and in retirement. The effects of taxes and contributions on the results are complex. A relatively high tax on old-age income increases the need to contribute to reach a certain living standard. But relatively high taxes and contributions paid by workers increases the net replacement rate and so reduces the need to contribute.

25. The calculations have also assumed that voluntary private pension savings feed straight through to retirement income and so did not take account of the fact that benefits are means-tested in some countries. Extra private pension therefore results in lower public retirement benefits. Means-testing therefore increases the need to contribute for people affected.

26. Figure 6 compares gross and net calculations of the contribution rate required to reach the OECD average (gross or net) replacement rate at different levels of earnings for selected countries. Australia illustrates the effect of broad means-testing, where even middle and high earners are affected. Taxes and the means test increase the required contribution rate for people on 150% of average earnings from just over 5% to over 10% of earnings.

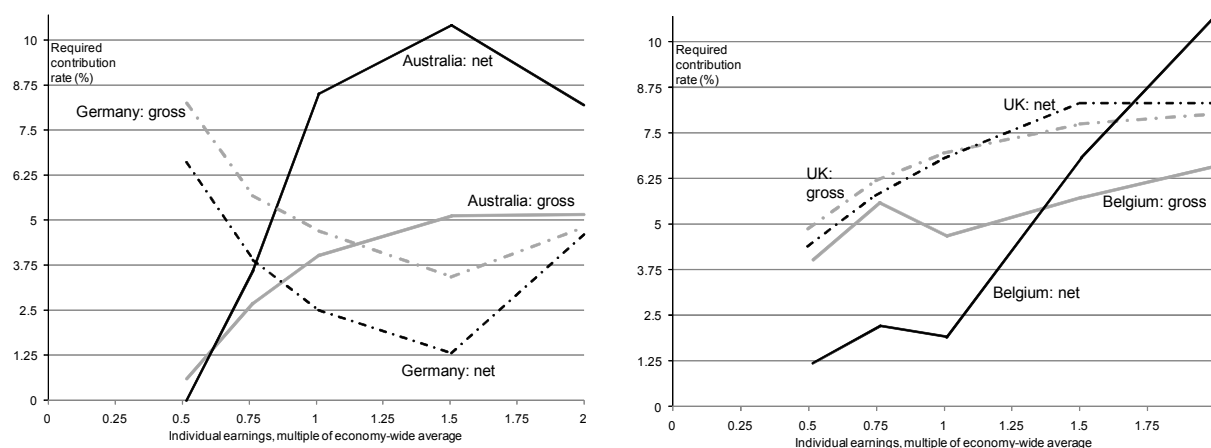
27. In Germany, in contrast, the net pension gap is smaller than the gross for all but the very highest earners. The lowest required contribution rate of 1.25% is for workers on 150% of average earnings, around the ceiling of the public pension. The main driver of this result is the relatively high tax burden faced by both workers and pensioners in Germany.

28. The effect of taxes on the pension-gap calculations is most dramatic for Belgium. For low and middle income workers, taxes and contributions are relatively large but little or no tax is due in retirement. This significantly reduces the required contribution rate. However, higher earners will also pay a significant slice of their income in taxes during retirement. This increases the required contribution rate on a net basis compared with the calculations on a gross basis.

29. Finally, in the United Kingdom, the pattern of required contribution rates is very similar on a gross and net basis. This is also the case in many of the countries not shown: Canada, Ireland and the United States, for example.

Figure 6. Filling the pension gap: the impact of taxes and means-testing

Contribution rate with a full history required to reach OECD average (gross and net) replacement rate by earnings in Australia, Germany, Belgium and the United Kingdom



Source: OECD pension models.

3. Coverage of voluntary private pensions

30. Evidence on coverage of private pensions is difficult to compare across countries because of complex institutional differences and the fact that provision of these plans is generally decentralised. This section examines the number of people who are enrolled in voluntary pension plans as a share of the employed population. Coverage is disaggregated by age and income level.

31. There are two broad types of data sources to calculate coverage of private pension plans. First, there are administrative data collected from pension plans, that provide the number of members in each plan, assets under management and benefits paid to retirees, survivors *etc.* Secondly, there are household surveys, where individuals are asked about whether they are enrolled in, have assets in, contribute to or receive pension benefits from private pension plans.

32. Unfortunately, administrative data suffer from a problem of double counting of individuals who are members of more than one pension plan at the same time. For example, many individuals are simultaneously covered by both an occupational (*e.g.*, a 401(k) plan in the United States) and a personal pension scheme (*e.g.*, an individual retirement account, IRA, in the United States). Additionally, double counting can result in occupational plans from people who have left the scheme but whose pension rights are “deferred” or “preserved” until they reach the pension eligibility age.

33. Household-survey data, in principle, avoid the double-counting problem. Because people are interviewed directly, it is generally possible to determine both whether they are enrolled in private pension plans and in how many of them (although the questions are not always appropriate for this purpose).³

34. The results reported below are obtained from household surveys that record coverage in a comparable manner. They comprise several OECD countries – Australia, Canada, Germany, Ireland, United Kingdom and the United States — where mandatory pension schemes provide a relatively low replacement of previous earnings, so people need voluntary pensions to complement their future retirement income.⁴

3.1 Overall coverage

35. Coverage of private pension plans, measured using household-survey data, is well above 50% in all the countries analysed (Table 1).⁵ Coverage of occupational pension plans – organised by employers – is broader than coverage of personal plans.⁶ In Australia, Ireland and the United Kingdom membership of occupational plans is more than double that of personal pension plans, while in Canada enrolment is higher in personal plans. Finally, in the United States, the share of the employment population enrolled in personal pension plans is quite large and only around 10 percentage points below the enrolment rate in occupational plans.

Table 1. Coverage of voluntary private pension plans selected OECD countries

(% of total employment, mid 200s)

	Total	Occupational	Personal
Australia	26.7	18.8	9.7
Canada	57.3	39.0	49.6
Germany	67.9		
Ireland	55.0	42.9	14.9
United Kingdom	59.1	47.1	18.9
United States	56.4	44.4	34.6

Note: The data for Australia exclude individuals with only mandatory employer contributions. Coverage of mandatory schemes is 85.0%.

Source: OECD calculations using the survey on Household, Income and Labour Dynamics in Australia (HILDA), the Canadian Survey of Labour and Income Dynamics (SLID), the German Socio-Economic Panel (GSOEP), the Irish Quarterly National Household Survey (QNHS), the British Household Panel (BHPS), the United States Panel Study of Income Dynamics (PSID) and the Luxembourg Wealth Study dataset (LWS).

3.2 Coverage by age

36. Coverage of voluntary private pensions has a hump-shaped relationship with age, reaching a peak at prime working ages, *i.e.* 35-44 or 45-54, depending on the country (Figure 7). However, young people

3. Moreover, many of the surveys that focus on retirement issues (e.g., the Health and Retirement Study, HRS, in the United States and the Survey of Health, Ageing and Retirement in Europe, SHARE) only sample older people of working age (above age 55, for example). These are therefore unsuitable for our purposes here.

4. In Australia, it is compulsory for employers to contribute to the superannuation fund. However, contributions are voluntary for employees and so these are shown separately.

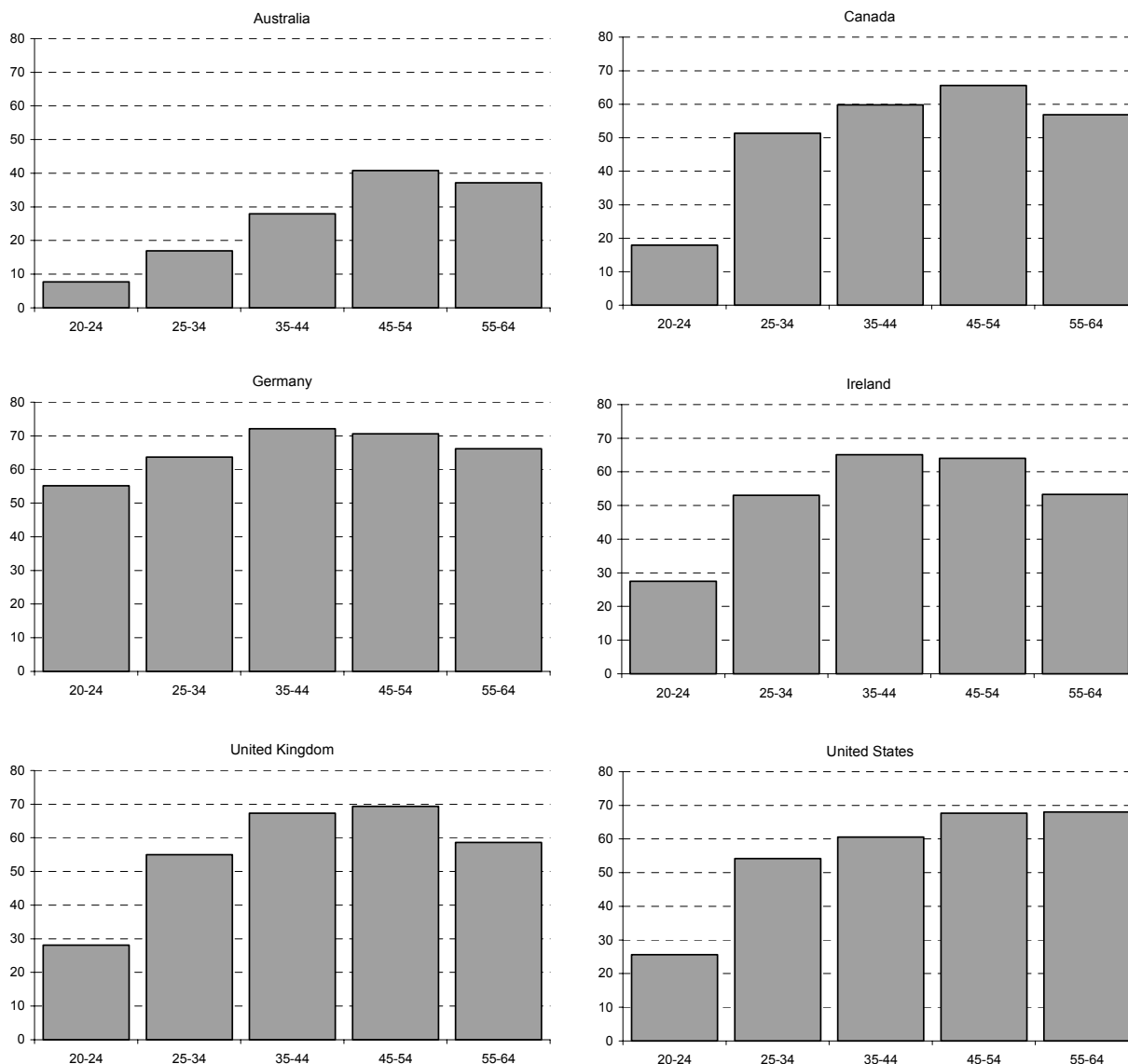
5. For an analysis using administrative data, see OECD (2007), Table II.2.1.

6. OECD (2004) provides a taxonomy of private pensions that sets out the details of the distinction between “occupational” and “personal” pensions.

are more likely to be enrolled in a private pension in Germany than older people, reflecting, most likely, the recent introduction of a tax-privileged retirement-savings plan. The fall in coverage rates at old working ages occurs in all countries except in the United States. It could be linked to early retirement of people covered by private pensions because of their greater pension wealth than people without private retirement-savings plans.

Figure 7. Coverage of voluntary private pension plans by age

(% of total employment)



Note: The data for Australia exclude individuals with only mandatory employer contributions.

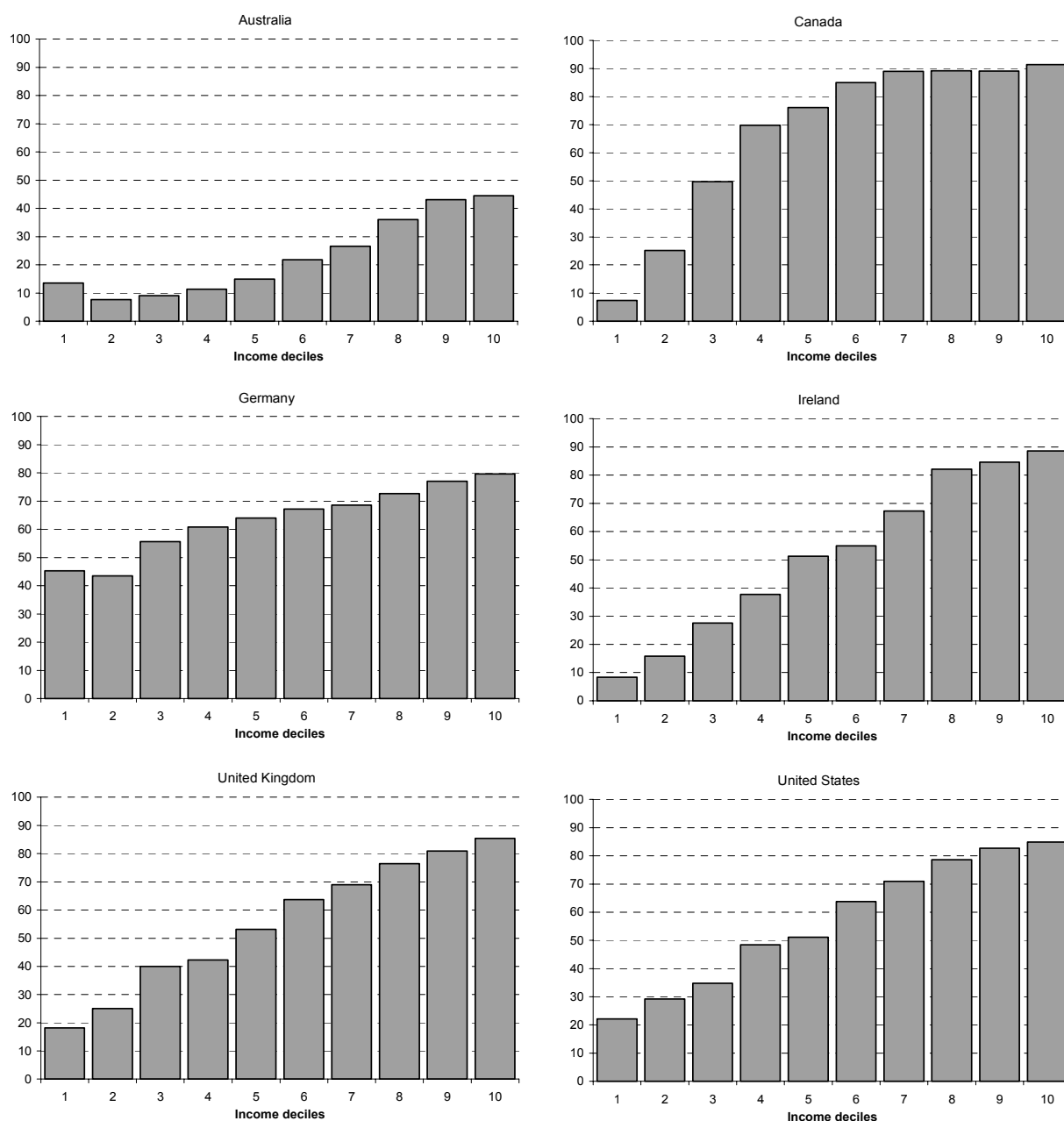
Source: see notes to Table 1.

3.3 Coverage by earnings

37. Coverage of voluntary private pensions tends to increase with earnings (Figure 8). However, it typically reaches a plateau after the 7th and 8th deciles of the distribution. Among the poorest groups, coverage is low: 10-20% in all countries, bar Germany (40%).

Figure 8. Coverage of voluntary private pensions by earnings

(% of total employment)



Note: The data for Australia exclude individuals with only mandatory employer contributions.

Source: see notes to Table 1.

3.4 *Conclusions*

38. Although overall coverage of voluntary private pension plans is well above half of the employed population in the six countries analysed, it is unevenly distributed. Younger workers and people with low incomes are much less likely to be members of a voluntary pension. The analysis of pension gaps in section 2 showed that lower-income individuals can reach the OECD average replacement rate with little or no voluntary private retirement saving in Australia, Canada and Ireland. Low rates of coverage for low earners is therefore not as much of a policy concern as it is in the United Kingdom and the United States, where even low earners would need to save 4-5% of their earnings throughout their working lives to reach the benchmark replacement rate. Pension gaps for low earners are also relatively large in Germany, but coverage of private pensions is also high among these groups. These results suggest that some, but not all, OECD countries need to focus efforts to expand coverage among low earner.

39. The pattern of coverage by age suggests that most people who do eventually have a private pension only start contributing at age 30 or even later. These missing years in people's contribution history substantially increase the savings effort needed in the years when people do pay into their private pension. For example, delaying joining a pension from age 20 to 30 raises the required contribution rate by around a half (OECD, 2007a, section II.2.6). The implication is that public policy needs to focus on younger workers, bringing forward the time at which people start contributing to private pensions.

4. **Contributions to private pensions**

40. Evidence on voluntary contributions to private pensions is available for only a few of the countries identified as having a pension gap in section 2.

41. As shown in Table 2, one can identify countries for which there is a shortfall between the actual contribution rate and that required to eliminate the pensions gap. The earlier analysis suggested that the required contribution rate in Belgium necessary to close the gap was about 4.7%. Of course, this is a number based on some essentially arbitrary assumptions, notably that the average replacement rate in OECD countries is a suitable target. In Belgium, contribution rates average 3%, ranging from 0.5% to 5.1% between occupational plans. This suggests that there might be many workers with insufficient contributions to close the pension gap. The situation is similar in Germany: the average contribution for those earnings below the social security ceiling is 4%. The contribution rate needed to close the pension gap is 4.7%.

42. Even in countries where the average contribution rate is above the required one, variations in contributions across pension plans can lead to significant pension gaps for some individuals. For example, in Ireland the average contribution rate in defined contribution plans is 10%, split equally between employers and employees. However, 30% of schemes have employee contribution rates below 5% while 18% of schemes have an employer contribution rate below 5%.

Table 2. Total contribution rates in voluntary, defined-contribution pension plans
(% of earnings)

	Average contribution rate
Belgium	3.0
Czech Republic	2.5
Germany	4.0
Ireland	10.0
United Kingdom	8.8
United States	9.0

Note: Data for the United Kingdom relate to defined-contribution occupational plans and do not include people with personal pensions.

Source: Belgium: CBFA (2007); Czech Republic: Hemmings and Whitehouse (2006); Germany: EPN (2007) survey; Ireland: benefits survey of the Irish Association of Pension Funds; United Kingdom: Office of National Statistics (2007).

43. It was shown in Section 2.3 that the pension gap is larger for higher-income households. Hence, one would expect contribution rates to voluntary plans to be higher for such individuals. Table 3 shows median contribution rates broken down by salary and age in US 401(k) plans, as calculated by Munnell and Sundén (2004). Contribution rates are indeed highest for the highest income group, but they are similar for all other groups.

44. There is limited information on the breakdown in contribution rates in other countries. In Germany, contributions to defined contribution plans for those earning above the social security ceiling is double (8%) that of those earning below the ceiling. Hence, the pension gap identified earlier for Germany mainly affects lower income households.

Table 3. Median employee and employer contributions in 401(k) plans in the United States by age and earnings, 2001 (% of earnings)

	Employee	Employer	Total
Earnings (USD)			
Less than 20,000	5.0	3.0	8.0
20,000-39,999	5.0	3.0	8.0
40,000-59,999	6.0	3.0	9.0
60,000-79,999	6.0	3.0	9.0
80,000-99,999	6.0	4.0	10.0
100,000 and more	7.9	3.0	10.0
Age			
20-29	5.2	3.0	8.2
30-39	6.0	3.0	9.0
40-49	6.0	3.0	9.0
50-59	6.0	3.0	9.0
60-64	5.0	4.3	9.3

Source: Munnell and Sundén (2004)

5. Policies to encourage private pension savings

45. Mandatory pension benefits, especially public pensions, will be much lower for workers entering the labour market today than those offered to their parents and grandparents. This means that voluntary,

private provision for old age will be necessary to maintain living standards into retirement. Indeed, many of the reforms to public pensions have been predicated on the assumption that voluntary retirement savings *will* increase.

46. In some countries, such as Canada, Japan, the United Kingdom and the United States, this has long been the case. But it is a new phenomenon in others, such as France and Germany. Moreover, the need to save for old age now encompasses more of the population, including groups such as low earners who have not traditionally made active retirement-savings decisions.

47. The evidence from sections 3 and 4 of this paper is rather mixed. Some data suggest that coverage of, and contributions to, retirement-savings plans are adequate. Others imply that there might be substantial gaps. This inconclusive evidence provides no grounds for complacency among policymakers. Fortunately, governments throughout the OECD are highly active in designing and implementing policies to encourage private pension savings. This section begins with a discussion of the most obvious route: compulsion, or mandating contributions to private pensions. However, there are other policies designed to encourage savings in voluntary private pension: soft-compulsion, policies aiming at facilitating access to pension plans and increasing the return on pension savings (e.g., tax incentives), as well as policies focusing on improving financial awareness and financial knowledge to encourage individuals to save for retirement.

5.1 *Compulsion*

48. Mandating contributions is an easy way to achieve both high coverage and a uniform distribution of coverage across age and income levels. In countries such as Australia, Iceland, Norway and Switzerland voluntary private pensions historically had broad coverage (of 50% or more of employees). Governments simply made it mandatory for employers to organise and contribute to private pensions on their employees' behalf. In each case, however, the mandatory level of pension provision was below the customary level that prevailed when private pensions were provided voluntarily. A second policy has been to mandate private-pension contributions as a substitute for part of the public pension. Hungary, Mexico, Poland, the Slovak Republic and Sweden have all taken this route.

49. Other countries such as Denmark, Sweden and the Netherlands, do not directly mandate contributions to private pensions, but as a result of wide-ranging employment agreements, participation in private pensions is *de facto* compulsory and coverage exceeds 85% of employees.⁷ Coverage of voluntary pension arrangements in Belgium and Germany has also edged upwards in recent years as a result of the establishment of industry-wide pension plans. However, this model is difficult to export to other OECD countries, where labour-market and industrial-relations structures are less amenable to achieving near universal coverage of private pensions.

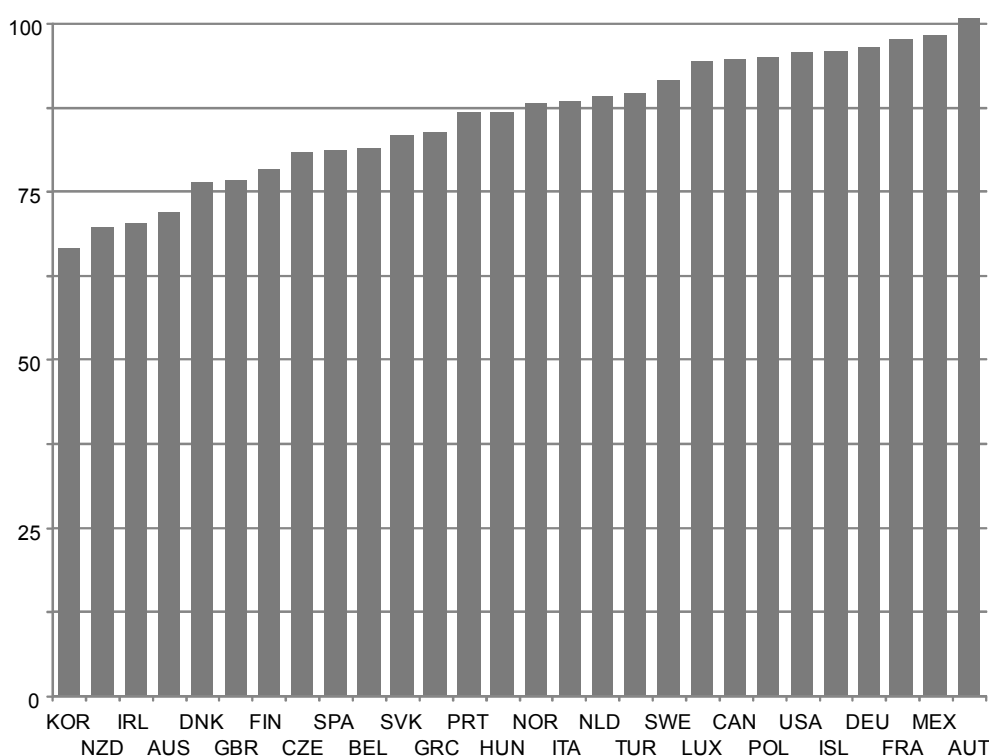
50. The main argument for compulsion is that it protects people from the regret of not having saved enough for their retirement when they were younger. It also protects societies from having to pay for safety-net benefits for those feckless people who did not provide for old age. Implementing this paternalistic approach is simple: it involves choosing a target replacement rate (which may or may not vary with earnings) and then ensuring that people reach that target through either public retirement-income provision or mandatory private pension plans.

51. An important, but sadly unresolved question is whether compulsion is necessary. Are people myopic? Left to their own devices, will they fail to save enough for retirement?

7. This is why these plans are called "quasi-mandatory", see OECD (2004 and 2005).

52. One way to investigate this question is to exploit historical differences in the degree of mandatory pension provision. Comparing the outcomes for retirement incomes of today's pensioners might show evidence of myopia in countries that have long had a major role for voluntary pension provision. Figure 9 shows how pensioner incomes compare with those of the population as a whole. The data are net incomes, adjusted for household size. There is significant bunching of countries with older people's incomes at around 80-90% of the population average. But there is no link between relative incomes and the type of pension system. Voluntary, private pensions play an important role in Canada and the United States towards the top of the range as well as in Ireland and the United Kingdom, which are towards the bottom. The OECD (2001) has described this phenomenon as "convergent outcomes, divergent means". These data provide evidence against the myopia hypothesis.

Figure 9. Pensioners' incomes as a percentage of population incomes in OECD countries, mid 2000s



Source: OECD (2008).

53. However, private-pension systems have been changing as rapidly as public schemes in some OECD countries. In Australia, Canada, Ireland, the United Kingdom and the United States, the majority of current retirees' income from private pensions comes from defined-benefit schemes. Younger workers, in contrast are much more likely to be members of defined-contribution plans. In some of the countries mentioned above, there has been widespread concern that employers are reducing their financial commitments to retirement savings for their employees as well as changing the way in which pensions are provided. This might lead to lower retirement incomes than those enjoyed by the current generation of retirees. Nonetheless, there is some contradictory evidence from the United States.⁸

8. Projections show that an average earner, paying 9% of earnings into a defined-contribution (401(k)) scheme, retirement income will be *higher* than under defined-benefit schemes (Munnell and Sundén, 2004; Holden and VanDerhei, 2002).

54. There are also a number of arguments against compulsion.

- First, even if individuals are myopic, it does not mean that greater mandatory pension provision is always a good thing. Mandating retirement saving means choosing a target replacement rate. However, this 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 retirement. People might want to invest in property or their own businesses. This perfectly rational behaviour may not be 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 reduced if the target set by the government is lower than the level of current contributions.

5.2 *Soft compulsion*

55. Compulsion has disadvantages while purely voluntary pension provision runs the risk of under-saving. Automatic enrolment is a “third way” between the alternative approaches of compulsion and voluntarism. It is often therefore called “soft compulsion”. The idea is that people have to opt out of saving for retirement rather than opt in. The goal is to increase participation while preserving individual choice.

56. Surveys of financial literacy, such as OECD (2005b), 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 as inertia and procrastination predominate. An obvious reason for this is that the process of signing up for a pension plan can be long and complex. Another problem is lack of information about savings options and insufficient understanding of complex investment decisions. Indeed, in some countries people claim 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.

57. A number of employer-provided pension plans in the United Kingdom and the United States have long used automatic enrolment to increase coverage among their employees. However, the policy has recently become much more prominent.

58. First, New Zealand has and the United Kingdom will adopt such a policy on a national scale, with all employees to be automatically enrolled in a private pension. The Retirement Security Project in the United States has developed a bipartisan proposal for a national scheme with automatic enrolment (Iwry and John, 2007). The government of Ireland has floated the idea of soft compulsion in a recent green paper (Department of Social and Family Affairs, 2007). There have also been proposals to introduce automatic enrolment for the salary conversion (“Entgeltumwandlung”) plans in Germany (Leinert, 2004, 2005).

59. Secondly, the burgeoning discipline of behavioural economics (see Thaler and Benartzi, 2004, and Toder and Khitatrakun, 2006, for example) has popularised the soft-compulsion approach both in academe and among policymakers. Thirdly, recent reforms in the United Kingdom and United States will make it easier for employers to enrol employees automatically in occupational schemes.

60. In the United States, there has recently been rapid expansion of the use of automatic enrolment in defined-contribution occupational plans (known as 401(k)s after the relevant clause of the tax code) from 8.4% in 2003 to 16.9% in 2005. This has been led by larger schemes. In 2002, just 17% of these had automatic enrolment, increasing to 41.3% by 2006. This is likely to increase further as a result of legislative changes that removed actual or perceived obstacles to automatic enrolment.⁹

61. In the United Kingdom, 48% of occupational plans automatically enrolled all new employees in 2005 and a further 12% applied this to some employees, according to the Government Actuary (2005). This represents a modest increase on 1995, when 43% of employees were in plans that automatically enrolled everyone and 7% in those with some automatic enrolment. However, there are some definitional questions about what exactly constitutes automatic enrolment. The Department for Work and Pensions distinguishes four different enrolment procedures. The department's survey found that 44% used a process of "streamlined joining", meaning just signing a pre-completed form (McKay, 2006). Only 19% of employees were covered by a plan with full automatic enrolment, that is, requiring an active opt out (substantially less than the results in the Government Actuary's survey). As in the United States, both of these enrolment procedures were more common among larger employers. Traditional opt-in accounted for 19% of plans, weighted by the number of members.

62. The key question about automatic enrolment is: Does it work? Despite growing enthusiasm for automatic enrolment experience of its use and evidence of its impact is fairly limited and comes mainly from the United States. Additionally, default options may also bring some problems. For example, as few workers opt out, the choices of default options made by governments or employers may create contingent liabilities. Additionally, default options may lead to low returns as pension funds may err on the side of cautiousness

63. One of the most widely cited papers – Madrian and Shea (2001) – looks at the experience of a single large employer in the United States. Before automatic enrolment, only 57% of people who had been with the company for less than three years had joined the occupational plan, increasing to 80% or more for people with tenure of 10 years or more. In the first 18 months of automatic enrolment, coverage increased to 86%. Similarly, Beshears *et al.* (2006) found a 35 percentage point increase in coverage for people with three month's tenure in another firm, falling to 25 points at 2 years' tenure.¹⁰ These results tend to suggest that automatic enrolment brings forward people's decision to join a company pension plan but that coverage of long-term employees might not be affected.

64. Horack and Wood (2005) looked at 11 company pension schemes in the United Kingdom that changed their enrolment arrangements. Two firms that introduced automatic enrolment increased coverage: from 25% to 58% and from 45% to 62% respectively. The other two firms already had very high coverage rates of 86% and 88%, most likely because the schemes did not require employee

9. These included state-level regulation against "garnishment" of wages (employers deducting contributions without employee consent) and issues of fiduciary liability in transferring contributions to a default fund. Also, the new provisions allow "unwind" within a set period, whereby employees can retrospectively get their contributions back without a tax penalty. See Gale, Iwry and Walters (2007).

10. See also Choi, Laibson and Madrian (2004, 2006).

contributions. Automatic enrolment increased coverage to 92% and 100% respectively.¹¹ Hawksworth (2006) reports the most dramatic increase in coverage due to automatic enrolment – 15% to 100% – in the Building and Civil Engineering scheme in the United Kingdom. The Government Actuary’s survey of occupational plans in the United Kingdom finds coverage of 89% in plans that automatically enrol everyone, 73% where some employees are enrolled and 59% without automatic enrolment. The survey carried out for the Department of Work and Pensions found coverage of 41% with traditional opt-in compared with 60% with automatic enrolment (McKay, 2006). These figures relate to larger employers (with more than 20 employees). Among smaller employers, coverage was virtually the same with traditional and automatic enrolment (at 67%).

65. Taking these studies as a whole, they suggest a potentially large effect of automatic enrolment on coverage of private pensions. However, it is always best to be wary of generalising from a small number of case studies. And there are many reasons to expect experience with national schemes for automatic enrolment is likely to be different than with employer-provided plans. There is also strong evidence that other features of the pension plan – such as the scale of the required employee contribution and the amount the employer is willing to contribute – also affect the coverage outcome.¹²

66. Arguments against soft compulsion are of two types: those that favour “hard” compulsion and those that support a purely voluntary approach. The validity of the former argument rests on the failure of automatic enrolment to increase coverage substantially. The argument for a purely voluntary approach echoes the case against compulsion: that the scheme with automatic enrolment will crowd out existing schemes and lead to a levelling down of provision for income in retirement. For example, case studies of automatic enrolment in the United States have shown that the default contribution rate acts as a powerful indicator for scheme members and so automatic enrolment reduces average contribution rates.¹³ Indeed, many employers deliberately set low default contribution rates to minimise the degree of opting out.

67. There is clearly a need for further evidence before it is possible to evaluate the effectiveness of soft compulsion in extending coverage of private pensions.

- First, if automatic enrolment simply mitigates the impact of procrastination and brings forward the starting point of saving for retirement then the effects on future pensions will not be large.
- Secondly, longer-term data are needed to assess the degree of persistence in pension coverage. For example, workers may, over time, overcome their inertia in the opposite direction and realise that opting out is a quick way of increasing current income.
- Thirdly, it is important to investigate the way in which individuals finance the contributions to automatic-enrolment retirement savings schemes. As with the analysis of tax incentives below, some of the contributions are likely to be money diverted from other savings vehicles or they may be financed by borrowing.

11. The other case studies adopted different enrolment techniques. In the five firms that just simplified the joining procedures, coverage was unchanged. The two firms that adopted a policy of “active decisions” – forcing people to opt in or out – had mixed experiences.

12. For example, many studies have shown that the extent to which employers match employee contributions to 401(k) plans in the United States has a major effect on coverage: see, *inter alia*, Engelhardt and Kumar (2005, 2006), Even and Macpherson (1997), Huberman, Iyengar and Jiang (2007), Kusko, Poterba and Wilcox (1998) and Papke and Poterba (1995).

13. See, for example, Beshears *et al.* (2006), Choi *et al.* (2002, 2004) and Madrian and Shea (2001).

- Finally, the schemes with automatic enrolment have also involved sizeable subsidies to individual savings. This is most obvious with the government's contribution to KiwiSaver accounts in New Zealand. But the occupational plans in the United Kingdom and the United States all involved employer contributions of varying sizes. Care is therefore needed to isolate a "pure" automatic enrolment effect on coverage separately from the effect of the subsidies.

68. Nevertheless, the automatic-enrolment approach to extending coverage of private pensions is likely to spread. Survey evidence suggests that automatic enrolment is much more popular with individuals than compulsion in the United Kingdom (Bunt *et al.*, 2006; Hall, Pettigrew and Harvey, 2006). And voters' views are shared by many politicians, who worry that workers will view mandatory contributions to private pensions as an unwelcome tax on their earnings.

5.3 *Promoting savings in private pensions by facilitating access*

69. Participation in private pension plans might be increased by facilitating access to private pension plans. The availability of occupational pensions is concentrated among workers with large employers. Just over 50% of workers in companies with fewer than 25 employees have access to an occupational pension in the United Kingdom, compared with 95% of those where there are more than 1 000 employees (Office of National Statistics, 2006, Table 6.10). In the United States, 68% of firms with more than 100 employees have a pension plan, compared with 28% of those in smaller firms (Copeland, 2003). This pattern is echoed in other countries.

70. People who work for smaller employers tend to have relatively low earnings, meaning that low earners are less likely to have access to an occupational pension plan. In the United States, for example, less than 50% of workers earning less than USD 50 000 are employed by a firm with a pension scheme, compared with 75% for workers with earnings above that level (Copeland, 2003).

71. A widely cited reason for the fact that smaller employers are less likely to establish occupational pension plans is the fixed cost of operating such a scheme, some of which is attributed to the burden of complying with regulations. The United States has responded to this problem by allowing small employers to establish pension plans with lighter administrative requirements than those for larger companies. For example, in the United States employers can establish the Simplified Employee Pension (SEP) plan is effectively a collection of individual retirement accounts managed by a financial institution acting as trustee.

5.4 *Promoting savings in private pensions with tax incentives*

72. A standard policy to encourage private, voluntary retirement savings is to give preferential tax treatment to contributions and returns from investments in pension plans.¹⁴ The idea is that a higher *net* rate of return on savings will encourage people to save more. These tax incentives tend to come with conditions, usually over duration of saving and restrictions on the way benefits can be withdrawn. It is these conditions that qualify them as "retirement savings".¹⁵

14. See Whitehouse (1999) for a discussion of the issues in the taxation of private pensions.

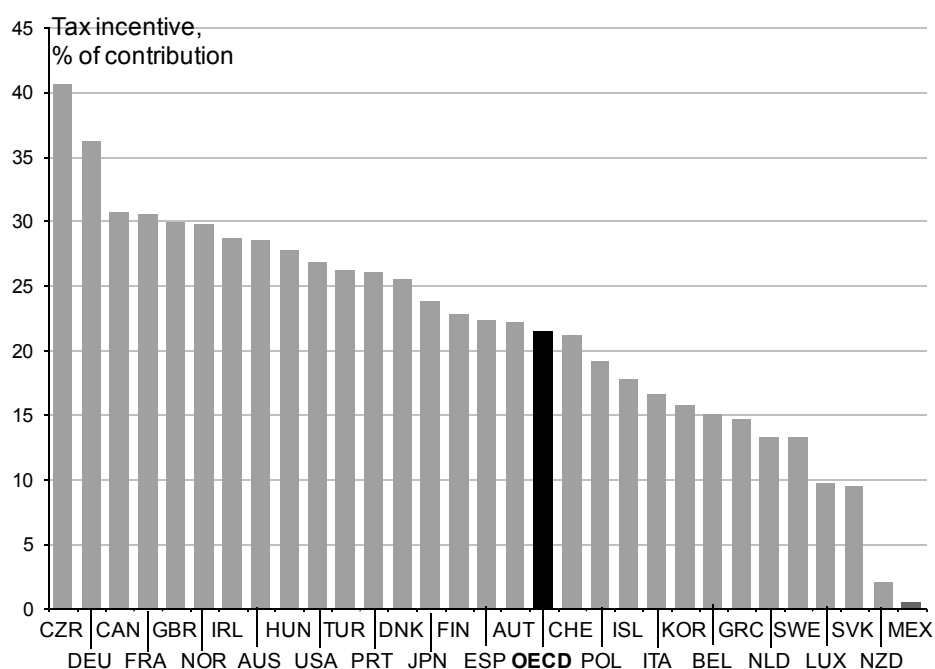
15. One way to encourage individuals to save in pensions is to allow some early withdrawals or loans against the account balance, subject to conditions. This will be attractive to individuals who are concerned about fluctuations in income due, for example, to unemployment. They might be reluctant to tie up their money in long-term savings. However, this policy runs the risk that myopic individuals spend their 'retirement' savings during their working lives. For evidence from the United States, see VanDerhei *et al.* (2008), Kusko, Poterba and Wilcox (1998) and General Accounting Office (1997).

73. The key policy issue is whether such tax incentives are effective in increasing savings earmarked for retirement. The OECD has measured incentives to save in pension schemes by comparing the effective tax rate on pensions with that applied to “benchmark savings”; typically this is a bank deposit (see Yoo and De Serres, 2004a,b). The scale of tax incentives is calculated as a percentage of contributions. It is measured in present-value terms over a given time horizon. It considers revenues foregone from deductible contributions and tax-free investment returns and takes account of revenues collected when benefits are withdrawn. Therefore, the calculations can be said to be on a “net” basis. They average over nine age groups with different investment horizons.

74. The results of these calculations suggest that there is indeed an incentive to save in pension plans (Figure 10). The size of the tax incentive for investing in private pensions, relative to benchmark saving, varies significantly across countries. It ranges from nearly 40% of contributions in the Czech Republic to around zero in Mexico and New Zealand. These two apart, most countries provide incentives of at least 10% of contributions and the average is above 20%.

The incentive is naturally highest in countries that apply exempt pension contributions from tax and lower in countries, such as Sweden and Italy, which tax investment returns of pension plans. However, given that the net tax cost reflects the generosity of tax treatment of private pension savings *relative* to alternative non-pension savings vehicles, there is no systematic pattern. In fact, several countries (Poland, Iceland, Korea, Greece, Netherlands, Slovak Republic and Mexico) which exempt private pension contributions and investment returns also provide generous tax breaks for alternative savings vehicles. Hence, there is only a small incentive to save in the form of pensions relative to benchmarks.

Figure 10. Tax incentive for private pensions relative to benchmark savings



Source: Yoo and De Serres (2004a,b).

75. Surveys of the literature suggests that tax incentives for private pension plans do increase *pension* savings.¹⁶ However, this increase in retirement savings could result from people actually increasing their

16. See Antolin and Lopez (2008) and Engen, Gale and Scholz (1994, 1996), for example.

overall savings (*i.e.*, new saving) or from people shifting savings from other saving vehicles (*i.e.*, reallocation) and leaving their total savings unchanged. Unfortunately, the empirical evidence on whether savings flowing into tax-advantaged pension schemes are new or reallocated is inconclusive and it is largely based on the United States.

76. If new saving predominates, then *national* saving (taking account of the reduction in public saving due to the tax incentive) is very likely to increase. But if reallocation is more important, then national saving would decline. This substitution of private for public saving has little macroeconomic effect. However, it may serve a micro policy purpose by locking individual savings into long-term plans earmarked for retirement.

77. The design of tax incentives is also important. Simply making contributions to private pensions deductible from personal income tax liabilities means that higher earners, paying higher marginal rates, get the greatest benefit. In contrast low earners, who do not pay any income tax or pay at a low rate, have a smaller tax incentive to save for old age. Moreover, their relatively low pension entitlements might mean that they are subject to means-testing in retirement. This is effectively an additional ‘tax’ on pension saving, as shown in section 2.5 above. However, it is possible to design fiscal incentives that benefit low earners equally or are focused on the low paid. For example, the tax relief on contributions might be limited to the lower or standard rate of income tax. Another method is to offer matching contributions or tax credits that are paid even to individuals who are not liable for income tax on their earnings.

5.5 *Promoting savings in private pensions with financial education*

78. Financial education can also be a means of improving awareness of the need to save for retirement and, it is hoped, coverage of voluntary funded pensions. There is evidence, for example, that employment-based information campaigns have increased participation in and contributions to private pension schemes (OECD 2005). According to Agnew *et al.* (2007), more financially literate workers in 401(k) plans in the United States are more likely to join the plan (or less likely to opt out of a scheme with automatic enrolment plans). Statements of individual pension rights – which have recently been introduced or improved in France, Germany, Sweden and the United Kingdom, among others – can help people better plan their retirement and make informed choices about voluntary private-pension savings.

REFERENCES

- Antolin, P. (2008), “Coverage in funded pension plans”, Working Paper on Insurance and Private Pensions No. 19, OECD, Paris.
- Antolin, P. and E. Lopez (2008), “The Impact of Tax Incentives on Retirement Savings”, Working Paper on Insurance and Private Pensions, OECD, forthcoming.
- Beshears, J., J.J. Choi, D. Laibson and B.C. Madrian (2006), “The Importance of Default Options for Retirement Saving Outcomes: Evidence from the United States”, Working Paper no. 12 009, National Bureau of Economic Research, Cambridge, Mass.
- Bunt, K., L. Adams, Z. Koroglu and E. O’Donnell (2006), *Pensions and Pension Reform*, Research Report no. 357, Department for Work and Pensions, London.
- CBFA (2007), *Biannual Report on Sectoral Pensions*, Brussels.
- Choi J.J., D. Laibson and B.C. Madrian (2004), “Plan Design and 401(k) Savings Outcomes”, Working Paper no. 10 486, National Bureau of Economic Research, Cambridge, Mass.
- Choi, J.J., D. Laibson, B.C. Madrian and A. Metrick (2002), “For Better or for Worse: Default Effects and 401(k) Savings Behavior”, Working Paper no. 8 651, National Bureau of Economic Research, Cambridge, Mass.
- Department of Social and Family Affairs (2007), *Green Paper on Pensions*, The Stationery Office, Dublin.
- Engelhardt, G.V. and A. Kumar (2005), “Social security personal-account participation with government matching”, *Journal of Pension Economics and Finance*, vol. 4, pp. 155-179.
- Engelhardt, G.V. and A. Kumar (2006), “Employer Matching and 401(k) Saving: Evidence from the Health and Retirement Study”, presentation to the Transatlantic Public Economics Seminar, June.
- Engen, E.M., W.G. Gale and J.K. Scholz (1994), ‘Do saving incentives work?’ *Brookings Papers on Economic Activity*, no. 1, pp. 85-151.
- Engen, E.M., W.G. Gale and J.K. Scholz (1996), “The illusory effect of saving incentives on saving”, *Journal of Economic Perspectives*, vol. 10, no. 4, pp. 113-38.
- Even, W.E. and D.A. Macpherson (1997), “Factors Influencing Participation and Contribution Levels in 401(k) Plans”, Florida State University Working Paper, Tallahassee, Florida.
- Gale, W.G., J.M. Iwry and S. Walters (2007), “Retirement Saving for Middle- and Lower-Income Households: The Pension Protection Act of 2006 and the Unfinished Agenda”, Policy Brief no. 2007-01, Retirement Security Project, Washington, D.C.

- General Accounting Office (1997), “401(k) Pension plans: loan provisions enhance participation but may affect income security for some”, GAO/HEHS-98-5.
- Government Actuary’s Department (2006), “Occupational Pension Schemes 2005: The Thirteenth Survey by the Government Actuary”, London.
- Hall, S., N. Pettigrew and P. Harvey (2006), *Public Attitudes to Personal Accounts: Report of a Qualitative Study*, Research Report no. 370, Department for Work and Pensions, London.
- Hawksworth, J. (2006), *Review of Research Relevant to Assessing the Impact of the Proposed National Pension Savings Scheme on Household Savings*, Research Report no. 373, Department for Work and Pensions, London.
- Hemmings, P. and Whitehouse, E.R. (2006), “Assessing the 2005 Czech Proposals for Pension Reform”, Working Paper no. 496, Economics Department, OECD, Paris.
- Holden, S. and J. VanDerhei (2002), “Can 401(k) Accumulations Generate Significant Income for Future Retirees?” Issue Brief no. 251, Employee Benefits Research Institute, Washington, D.C.
- Horack, S. and A. Wood (2005), *An Evaluation of Scheme Joining Techniques in workplace pension schemes with an employer contribution*, Research Report No. 292, Department for Work and Pensions, London.
- Huberman, G., S. Iyengar and W. Jiang (2003), “Defined Contribution Pension Plans: Determinants of Participation and Contribution Rates”, *Journal of Financial Services Research*, vol. 31, no. 1, pp. 1-32.
- Iwry, J.M. (2006), “Automating Saving: Making Retirement Saving Easier in the United States, the United Kingdom and New Zealand”, Policy Brief no. 2006-02, Retirement Security Project, Washington, D.C.
- Iwry, J.M. and D.C. John (2007), “Pursuing Universal Retirement Security through Automatic IRAs”, Policy Brief no. 2007-02, Retirement Security Project, Washington, D.C.
- Kusko, A., J.M. Poterba and D. Wilcox (1998), “Employee Decisions with Respect to 401(k) Plans”, in O.S. Mitchell and S. Schieber (eds), *Living with Defined Contribution Pensions: Remaking Responsibility for Retirement*, pp. 98-112, University of Pennsylvania Press, Philadelphia.
- Leinert, J. (2004), “Automatische Entgeltumwandlung: Hohe Teilnahmekquoten ohne Zwang”, *Wirtschaftsdienst* 2004-2.
- Leinert, J. (2005), “Betriebliche Altersvorsorge: Automatik statt Zwang. Warum das Opting-Out Modell besser ist”, *Deutsches Institut für Altersvorsorge*, Köln, Germany.
- Madrian, B.C. and D. Shea (2001), “The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior”, *Quarterly Journal of Economics*, vol. 116, no.4, pp. 1149-1525.
- Martin, J.P. and E.R. Whitehouse (2008), “Reforming Retirement-Income Systems: Lessons from the Recent Experiences of OECD Countries”, *Social, Employment and Migration Working Paper No. 66*, OECD, Paris.

- McKay, S. (2006), *Employers' Pension Provision Survey 2005*, Research Report no. 329, Department for Work and Pensions, London.
- Munnell, A. H. and A. Sundén (2004), *Coming Up Short: The Challenge of 401(k) Plans*, Brookings Institution Press, Harrisonburg, Virginia.
- OECD (2001), *Ageing and Income: Financial Resources and Retirement in Nine OECD Countries*, Paris.
- OECD (2004), "OECD Classification and Glossary of Private Pensions", Paris.
- OECD (2005), *Improving Financial Literacy: Analysis of Issues and Policies*, Paris.
- OECD (2007), *Pensions at a Glance: Public Policies across OECD Countries*, Paris.
- Office of National Statistics (2006), *Living in Britain*, The Stationery Office, London.
- Office of National Statistics (2007), *Occupational Pension Schemes Annual Report no. 14*, London.
- Papke, L.E. and J.M. Poterba (1995), "Survey Evidence on Employer Match Rates and Employee Saving Behavior in 401(k) Plans", *Economics Letters*, vol. 49, no. 3, pp. 313-317.
- Pensions Commission (2004), *Pensions: Challenges and Choices*, First Report, The Stationery Office, London.
- Queisser, M., P. Whiteford and E.R. Whitehouse (2007), "The Public-Private Pension Mix in OECD Countries", *Industrial Relations Journal*, vol. 38, no. 6, pp. 542-568.
- Thaler, R. and S. Benartzi (2004), "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving", *Journal of Political Economy*, vol. 112, no.1.
- Toder, E. and S. Khitatrakun (2006), "KiwiSaver Evaluation Literature Review", Tax Policy Center, Urban Institute and Brookings Institution, Washington, D.C.
- Whiteford, P. and E.R. Whitehouse (2006), "Pension Challenges and Pension Reforms in OECD Countries", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 78-94.
- Whitehouse, E.R. (1999), "The Tax Treatment of Funded Pensions", Pension Reform Primer series, Social Protection Discussion Paper no. 9910, World Bank, Washington, D.C.
- Yoo, K.Y. and A. de Serres (2004a), "Tax treatment of private pension savings in OECD countries and the net tax cost per unit of contribution to tax-favoured schemes", Working Paper no. 406, Economics Department, OECD, Paris.
- Yoo, K.Y. and A. de Serres (2004b), "Tax Treatment of Private Pension Savings in OECD Countries", *OECD Economic Studies*, vol. 39, no. 2, pp. 73-110.
- VanDerhei, J., S. Holden, L. Alonso and C. Copeland (2008), "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2007", Issue Brief no. 324, Employee Benefits Research Institute, Washington, D.C.

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS

Most recent releases are:

- No. 68 *THE IMPACT OF FOREIGN DIRECT INVESTMENT ON WAGES AND WORKING CONDITIONS*
Elena Arnal and Alex Hijzen (2008)
- No. 67 *THE DYNAMICS OF SOCIAL ASSISTANCE RECEIPT: MEASUREMENT AND MODELLING ISSUES, WITH AN APPLICATION TO BRITAIN*
Lorenzo Cappellari and Stephen P. Jenkins
- No. 66 *REFORMING RETIREMENT-INCOME SYSTEMS: LESSONS FROM THE RECENT EXPERIENCES OF OECD COUNTRIES*
John P. Martin and Edward Whitehouse (2008)
- No. 65 *THE JOINT DISTRIBUTION OF HOUSEHOLD INCOME AND WEALTH: EVIDENCE FROM THE LUXEMBOURG WEALTH STUDY*
Markus Jantti, Eva Sierminska and Tim Smeeding (2008)
- No. 64 *A REVIEW OF STUDIES ON THE DISTRIBUTIONAL IMPACT OF CONSUMPTION TAXES IN OECD COUNTRIES*
Neil Warren (2008)
- No. 63 *GLOBALISATION AND LABOUR MARKETS: POLICY ISSUES ARISING FROM THE EMERGENCE OF CHINA AND INDIA*
David T. Coe (2007)
- No. 62 *MIGRANT WOMEN INTO WORK – WHAT IS WORKING?*
Alexandra Heron (2008) Forthcoming
- No. 61 *ADDRESSING LABOUR MARKET DUALITY IN KOREA*
David Grubb, Jae-Kap Lee and Peter Tergeist (2007)
- No. 60 *LIFE-EXPECTANCY RISK AND PENSIONS: WHO BEARS THE BURDEN?*
Edward Whitehouse (2007)
- No. 59 *AUDIT DU SERVICE PUBLIC DE L'EMPLOI AU LUXEMBOURG*
David Grubb (2007)
- No. 58 *TRENDS IN INTERNATIONAL MIGRATION FLOWS AND STOCKS, 1975-2005*
B. Lindsay Lowell (2007)
- No. 57 *UNAUTHORIZED MIGRANTS IN THE UNITED STATES: ESTIMATES, METHODS, AND CHARACTERISTICS* (2007)
Jeffrey Passel
- No. 56 *LA POLITIQUE MIGRATOIRE FRANÇAISE À UN TOURNANT* (2007)
Martine Durand et Georges Lemaître
- No. 55 *THE UNIFICATION OF THE SOCIAL INSURANCE CONTRIBUTION COLLECTION SYSTEM IN KOREA* (2007)
Sinchul Jang
- No. 54 *ASSESSING THE IMPACT OF LABOUR MARKET POLICIES ON PRODUCTIVITY: A DIFFERENCE-IN-DIFFERENCES APPROACH* (2007)
Andrea Bassanini and Danielle Venn
- No. 53 *PENSION REFORM IN CHINA: PROGRESS AND PROSPECTS* (2007)
Felix Salditt, Peter Whiteford and Willem Adema
- No. 52 *INTERGENERATIONAL TRANSMISSION OF DISADVANTAGE: MOBILITY OR IMMOBILITY ACROSS GENERATIONS? A REVIEW OF THE EVIDENCE FOR OECD COUNTRIES* (2007)
Anna Christina d'Addio

Other series of working papers available from the OECD include: OECD HEALTH WORKING PAPERS

RECENT RELATED OECD PUBLICATIONS:

- PENSIONS AT A GLANCE – SPECIAL EDITION: ASIA/PACIFIC (2009)*
- GROWING UNEQUAL? Income Distribution and Poverty in OECD Countries (2008)*
- JOBS FOR YOUTH: CANADA (2008)*
- JOBS FOR YOUTH: NETHERLANDS (2008)*
- JOBS FOR YOUTH: NEW ZEALAND (2008)*
- JOBS FOR YOUTH: NORWAY (2008)*
- JOBS FOR YOUTH: UNITED KINGDOM (2008)*
- A PROFILE OF IMMIGRANT POPULATIONS IN THE 21ST CENTURY (2008)*
- OECD EMPLOYMENT OUTLOOK (2008)*
- INTERNATIONAL MIGRATION OUTLOOK - 2008 Edition*
- OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES IN SERBIA (2008)*
- JOBS FOR IMMIGRANTS (VOL. 2): Labour Market Integration in Belgium, France, The Netherlands and Portugal (2008)*
- MODERNISING SOCIAL POLICY FOR THE NEW LIFE COURSE (2007)*
- BABIES AND BOSSES - Reconciling Work and Family Life: A Synthesis of Findings for OECD Countries (2007)*
- BENEFITS AND WAGES – OECD Indicators (2007)*
- FACING THE FUTURE: KOREA’S FAMILY, PENSION AND HEALTH POLICY CHALLENGES (2007)*
- PENSIONS AT A GLANCE: Public policies across OECD countries (2007)*
- JOBS FOR YOUTH: KOREA (2007)*
- JOBS FOR YOUTH: BELGIUM (2007)*
- JOBS FOR YOUTH: SPAIN (2007)*
- JOBS FOR YOUTH: SLOVAK REPUBLIC (2007)*
- SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS (VOL. 2) – AUSTRALIA, LUXEMBOURG, SPAIN AND THE UNITED KINGDOM (2007)*
- WOMEN AND MEN IN OECD COUNTRIES (2006)*
- SOCIETY AT A GLANCE: OECD Social Indicators (2006)*
- PENSIONS PANORAMA: RETIREMENT INCOME SYSTEMS IN 53 COUNTRIES (joint publication with the World Bank) (2006)*
- SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS (VOL. 1) – NORWAY, POLAND AND SWITZERLAND (2006)*
- AGEING AND EMPLOYMENT POLICIES: LIVE LONGER, WORK LONGER (2006)*

For a full list, consult the OECD On-Line Bookstore at <http://www.oecd.org/>