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Pension policy in EU25 and its impact on pension benefits^{1,2}

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This article provides a brief summary of the most recent changes in public pension policies in the countries of the European Union and describes how they affect pension benefits for future pensioners. The pension systems in Europe have been changing fast. The common trends are that the generosity of public pension benefits is on the decline, the changes are likely to shift more risks towards individuals and there are fewer possibilities of redistribution. Our analyses point towards the importance of a more comprehensive assessment of these reforms so as to reduce the risk of pensioner poverty in the future.

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Introduction

This article summarises the most recent changes in pension policies in the 25 countries of the European Union (EU25) (for a more comprehensive review see Zaidi et al, 2006) and then describes how they might affect pension benefits of the future populations of retirees. These insights help us identify key behavioural and policy responses that might be necessary in the future to meet not just the objective of fiscal sustainability but also adequacy of pension incomes in the EU25.

The pension landscape in Europe is continuously changing and the current systems are significantly different from those present just 10 years ago. In some cases the pension reforms have reversed dramatically the expected increase in spending on public pensions.¹ These reforms can be broadly characterised as either ‘parametric’ or ‘systemic’. The former have maintained unchanged the pay-as-you-go (PAYG) nature of existing pension systems but made substantial changes to their underlying rules, while systemic reforms have involved a move towards defined contribution-type schemes, either through World Bank inspired multi-pillar systems (changes in public pension as well as introduction of including mandatory, funded personal accounts) or through non-financial defined contribution (NDC) schemes (as in Sweden). There have also been some countries that have opted for hybrid reforms that introduced features that mimic defined contribution (DC)-type systems, while still retaining the overall defined benefit (DB)-type structure.² These hybrid reforms reflect the attractiveness for policy makers of a certain feature of DC systems that introduce an element of automatic stabilisation in pension expenditures – particularly links between the contribution period (or pension age) and life expectancy.

The rest of this article is organised as follows: a brief summary of parametric reforms in the pension system in the EU during the last decade or so; a description of the systemic reforms in the pension system; the main contribution of this article, as it presents further results on possible effects of these pension reforms on pension benefits; and concludes by noting the tensions and flaws arising from the reforms.

Parametric reforms and their possible impact

Most EU25 countries have not pushed for a complete overhaul of their system, but have gone for parametric reforms. The reasons for this were either that shifts to fully funded systems were seen as financially unsustainable or the transition presented too complex a challenge. Yet, although parametric reforms may seem less drastic than systemic ones, in practice their impact on fiscal sustainability and pensioner welfare can be equally impressive, or even more so in some instances. (For example, while the net replacement ratio is expected to decline by 4% in Hungary, which has gone for systemic reform, that in France, which has pursued parametric reform, is set to fall by 21% – see EC, 2006). The main difference between parametric and systemic reform lies in the fact that parametric reforms do not change public pension systems from a DB to a DC-type set-up. This has several important implications, such as that longevity risk is still borne by the pension provider rather than the pensioner. Moreover, redistribution is still possible under a DB system, something that is relatively difficult to achieve under a pure DC framework.

The most frequent parametric reform involved changing the retirement age; although in most cases the reform has just involved the equalisation of the legal retirement age for men and women. However, the approaching retirement of the baby boom generation is increasing the willingness of governments to raise state pension ages (for example, Germany, Denmark, UK and Malta are all in the process of doing this). This reform increases both the revenues of the government, by adding more years of contributions, while it decreases the longevity risk borne by the state and the total amount it needs to pay to contributors when they eventually retire. The equalisation of state pension ages for the two genders involved a reduction of the overall pension benefits of women, but could be considered as justifiable in equity terms given that it addressed the fact that while women had longer life expectancy than men, they had previously been allowed to retire earlier. The overall increase in the state pension age, however, raises concerns about its relative impact on lower-income individuals, as these have lower life expectancy than wealthier individuals and also tend to depend more on state pensions. In relative terms, an increase in the state pension age will result in a greater loss of pension wealth for low-income groups unless this reform is countered by changes that target pensions more towards this population subgroup.³

Changes in contribution requirements also have important implications for pension benefits. In particular the extension of the period of minimum contributions needed to qualify for the maximum pension (as has happened in several countries, such as Austria, Belgium, France and Italy) may result in a decline in pension benefits of the more disadvantaged groups in society, as these tend to spend less time in formal labour market activity. Thus, for these reforms not to impact too negatively on lower-income groups, it is essential that they are accompanied by the introduction of adequate crediting schemes for periods of 'justified' absences from employment – such as unemployment, caring and disability.⁴ Another interesting reform has been adopted by France, under which after 2009, 'the number of contribution years will increase following the increase in life expectancy through a rule keeping constant the ratio of the number of contribution years and the number of years in pension to the level of 1.79 as in 2003' (Carone, 2005, p 18). This reform is interesting in that it introduces a form of automatic stabiliser in the public DB scheme that reduces the risk posed by longevity. The merit of this approach is that the individual, here, has clear signals that he/she can still manage to qualify for a good benefit by working longer.

On the benefit side, more countries moved away from earnings uprating of pensions in payment; and nowadays most EU countries uprate benefits with prices. This implies that there will be a continuous decline in the relative income position of older people (especially the oldest pensioners), as their income grows at a much slower rate (in line with inflation) than that of the rest of the population (more in line with earnings).

Another recent innovation was the introduction of sustainability factors (for example, Germany and Austria), which implies that eventual pension benefits are affected by demographic developments such as changes in life expectancy or the retirement of the baby boom generation.⁵ Similarly to changes in state pension age, the application of these factors while leading to more actuarially neutral systems can have serious equity effects. Reducing the pension benefit of a lower-income person, on the basis of the improvement of the life expectancy of the overall population, is not actuarially fair and also implies that the poor will be made to bear relatively more than other groups in society the burden of the ageing of populations. This implies that the systems provide implicitly greater incentives to richer persons than to poor persons who have to work and save for longer periods of their working lives.

Another parametric reform that may affect significantly pension benefits is changes in the pensionable salary. Most countries used to have schemes that limited the determination of this salary to the final few years of a career, a period when someone would be near the top of her/his earnings history. However, in recent years, there has been a considerable lengthening of this period, so that the wage that is replaced is in many cases no longer very representative of the final salary of the person before s/he retires but is closer to the average lifetime salary. Austria, for example, has moved away from using 15 best years to the income earned during 40 to 45 years of working lives, while Portugal and Hungary have moved towards calculating the pensionable income as the average lifetime salary. Most notably, this kind of reform is most likely to harm those who had a steep earnings career, and will be relatively beneficial to those on low-income trajectory, who frequently tend to end up earning very little in their later years (because of disability or lack of employability arising from lack of skills).

Systemic reforms and their possible impact

In essence there have been two broad types of systemic reforms: World Bank-inspired multi-pillar reforms that set up systems based on personal accounts (for example, Slovak Republic, Estonia and Hungary)⁶ and the adoption of non-financial defined contribution systems (for example, Sweden, Italy, Poland and Latvia). In both cases, the main difference with the old public schemes is that the structure of determination of pension benefits changes from DB to DC. However, there are some major differences between the two strands of reforms and, as discussed below, their impact on pension benefits is also likely to be quite distinct.

World Bank multi-pillar reforms

The multi-pillar-type personal accounts reforms introduce two elements of risk to pensioner incomes – namely *investment risk* and *administrative charges risk*, and these may lead benefits to be significantly different from those available under the previous pension schemes. The move to DC also implied that contributions and benefits of an individual became directly linked and this reduces the possibilities of redistribution (although this provides greater incentives and individual choice to all to save more for their retirement). Thus, such a move was negative for lower-income individuals, as

progressive elements in pension formulae were removed or decreased, cases in point being Hungary (1998) and Poland (1992 and 1999).

It may still be too early to assess, but if personal account systems in Eastern European countries evolve like that of Chile, a substantial proportion of individuals may opt to contribute just enough to qualify for the minimum pension guarantees (with the associated risks of poverty and political pressure on governments to improve guarantees).⁷ In some countries that went through the reform earlier than others, for example, Hungary and Poland, there have been studies that have yielded some interesting insights. Orban and Palotai (2005, p 5) note that *'the returns recorded so far in the private pension funds fall short of expectations and, on the condition that these low returns persist, the second pillar [of personal accounts] is projected to provide annuities that do not make up for the reduction in benefits received from the public pillar.'*

The Hungarian case is also interesting in that it shows that a move to full funding does not automatically result in fiscal sustainability as after the reform several parametric changes contributed to reverse any improvements in public expenditures on pensions.

A further complication arises when individuals are given the option to shift voluntarily into the personal accounts system. According to a World Bank study carried out in 2000, surveys in Poland indicate that *'most people felt they were well informed and that information on the pension reform was readily available'* but then surveys often showed *'that the knowledge of the pension system was limited to slogans rather than a deep understanding'* (Chlon-Dominczak 2000, p 60). Orban and Palotai (2005, p 12) in their study on Hungary remark that *'it is a puzzle to researchers why so many people joined the multi-pillar system voluntarily, renouncing 25% of their pension claims from the PAYG after having contributed to the pure PAYG for a number of years'*. They explain it *'by the fact that individuals perceived the market risk involved in accumulating savings in a pension fund to be lower than the policy risk of participating in a pure PAYG with very low credibility and an overall negative image'*. Moreover they note that *'this negative image was exploited by large-scale mis-selling and campaign from the part of pension funds, whose agents pressed and often misled customers in order to recruit more members'* (Orban and Palotai 2005, p 12).

Besides exposing contributors to investment return risk, the multi-pillar system's decentralised approach implies a very expensive administrative cost structure. Whitehouse (2000) reports that countries with relatively similar systems based on individual accounts with individual choice of provider have average charges that vary from less than 15% to more than 30%. This is particularly negative on low-income earners who have very small funds. This approach also gives rise to competition that is not really based on the effective rate of return, but rather on marketing campaigns. This not only impacts badly on the low-income contributors who usually are the least able to evaluate critically these campaigns, and thus end up making the wrong choices, but also raises the costs of the system without leading to any benefit to participants.

This is not to say that the personal accounts systems within multi-pillar systems cannot be organised in a way that reduces the administrative charges faced by contributors. The Swedish pension systems also includes a relatively small personal account component (2.5 percentage points out of the total 18.5% contribution paid) which due to its centralised organisation faces significantly lower costs than the multipillar systems of Central and Eastern European countries, indicating that this type of risk can be reduced through reforms that decrease decentralisation. The system of personal accounts proposed by the Pensions Commission in the UK presents another example of how system design could focus on minimising administration, collection and selling costs.

NDC schemes

Whereas the personal account systems are based on investing funds in the financial market, the NDC systems involve just *notional* accounts, and thus do not involve any administration costs – an important consideration for low-income individuals. The rate of return faced under an NDC is centrally determined and reflects the formula chosen, whereas under the personal accounts system the returns depend on the investment choices made by individuals and, more critically, the performance and stability of financial markets. This has significant implications in that all people face the same risks on return under the NDC scheme, and thus there is no income inequality that results only because of better investment choices, something that could possibly be correlated to the income level of an individual.

That said, NDC schemes also have a form of ‘investment’ risk for contributors. The NDC schemes, in fact, attempt to make the PAYG schemes automatically stabilising so that the ‘assets’ and ‘liabilities’ of the system balance out. Thus, the notional interest rate is reviewed regularly and in particular if the size of the contributing labour force drops, the return on funds declines. Besides this, the system also adjusts for longevity increases through changes in the annuity divisor, which converts the notional account upon retirement into a lifelong stream of annual pension benefits. As retirees’ life span increases, the monthly benefit available to individuals declines unless they delay retirement. Capretta (2006, p 3) reports for the Swedish system that *‘based on mid-range demographic and economic assumptions, the Government projects that the life span adjustment will cut average monthly benefits for those continuing to retire at age 65 by 14% by 2055’*. Franco and Sartor (2006, p 475) report that in the Italian system *‘under the baseline scenario, the average pension earned at the age of 60 is reduced by 34 percent ... the reduction in benefits reaches 50 percent if the lifetime stream of pension benefits is taken into account’*. These reductions in benefits, if not compensated by additional years of contributions, are likely to decrease the pension benefits available to the future population of pensioners.

Impact of pension reforms on pension benefits

The recently released assessment of ageing related public expenditures by the Economic Policy Committee (2006) suggests that the projected benefit ratio (the ratio of average public pension relative to average output per worker⁸) will decline by more than a tenth by 2025 and by more than a fifth by 2050. As can be seen from Table 1, there are many countries that are projecting a decline in the relative public pension benefit generosity. In some cases the magnitude of the decline is quite worrying, cases in point being most of the new member states but also Germany, Austria, France, Italy and Sweden.

Table 1: Projected benefit ratio in member states of EU25

	2004	2025	2050	Decline in generosity
Belgium	17.7	17.6	16.4	-7%
Czech Rep	15.7	13.0	14.1	-10%
Denmark	20.2	19.3	19.2	-5%
Germany	18.5	15.6	13.3	-28%
Estonia	10.5	8.0	5.3	-50%
Spain	17.2	19.0	17.1	-1%
France	24.4	21.1	18.9	-23%
Ireland	14.3	16.6	15.7	-
Italy	20.0	18.8	14.0	-30%
Cyprus	25.6	25.5	30.8	-
Latvia	11.4	9.1	7.2	-37%
Lithuania	7.7	8.6	7.5	-3%
Luxembourg	23.5	26.4	28.0	-
Hungary	13.4	15.5	16.2	-
Malta	18.4	17.2	10.3	-44%
Netherlands	19.5	18.2	18.1	-7%
Austria	21.8	19.9	15.2	-30%
Poland	25.0	18.4	10.7	-57%
Portugal	18.6	17.2	15.4	-17%
Slovenia	18.9	17.4	17.3	-8%
Slovak Rep	13.0	12.0	8.8	-32%
Finland	19.8	18.8	18.0	-9%
Sweden	21.3	16.9	15.9	-25%
EU25*	21.7	19.8	17.0	-22%

Note: * Excluding Greece and the UK that did not provide data.

Source: Economic Policy Committee (2006)

In some countries, most notably in Eastern Europe, the expected decline reflects a partial switch to the multi-pillar system, and so it could be partly remedied by the contribution of these new private personal accounts. However in other countries, the decline in generosity will not be offset by any other mandatory component. For instance, it is readily evident that countries that have introduced features that mimic NDC (Germany, Austria and France), will reduce the generosity of their schemes.

As stated previously, countries that have ‘just’ undertaken parametric reforms have still managed to cut back pension income generosity considerably – for example Portugal is projected a decline of nearly a fifth. At the same time, this projection exercise confirms that existing parameters of the pension system will be exerting a lot of influence on future generosity of pension benefits. For instance, in Malta the setting of a maximum pension ceiling that rises in line with the social wage⁹ means that by 2050 the system’s generosity will have fallen by more than two fifths. Similarly in the UK, the Second Report of the Pension Commission has reported that if the basic state pension were to remain indexed to prices, its value ‘as a percentage of median earnings would keep declining (from 19% today to 8% in 2050) and average state pension payments to pensioners would fall as a fraction of average earnings by about 27% over the next 45 years’ (Pension Commission, p 120). These are worrying trends, but a higher employment rate and a greater share of private pensions may partly offset them.

Theoretical replacement ratios also provide useful indications on how the pension systems are evolving, although they are derived from the replacement of income for stylised individuals (full-career males, with average earnings and contributions to first, and in some cases second, pillar schemes and retiring at 65 – see EC, 2006). As can be seen from Table 2, the generosity of public pension schemes is set to decline in a number of countries (ranging from a massive 61% in Malta and 44% in Poland to 2% in Finland and the Netherlands). As many as eight countries observed a significant decline in the net replacement rates, and for others the changes are moderate. The other polar position is offered by Cyprus (an increase of 35%) and Austria (an increase of 17%).

Table 2: Theoretical replacement rates: 2004 compared with 2050

Countries with projected decline in Net replacement rates	Countries with projected increase in the Net replacement rates
Czech Rep. (-9 pp or 11%)	Belgium (+7 pp or 10%)
Greece (-9 pp or 8%)	Denmark (+5 pp or 7%)
Spain (-5 pp or 5%)	Germany (+4 pp or 6%)
France (-17 pp or 21%)	Estonia (+2 pp or 5%)
Latvia (-6 pp or 8%)	Italy (4 pp or 5%)
Hungary (-4 pp or 4%)	Cyprus (8 pp or 35%)
Malta (-54 pp or 61%)	Lithuania (9 pp or 22%)
Netherlands (-2 pp or 2%)	Austria (14 pp or 17%)
Poland (-34 pp or 44%)	United Kingdom (3 pp or 4%)
Finland (-1 pp or 2%)	
Sweden (-14 pp or 20%)	

Note: The theoretical replacement rates are the level of pensions as a percentage of previous individual earnings at the moment of take-up of pensions, calculated for a hypothetical worker with a given earnings and career profile (in this case a male worker who works full-time for 40 years – with no career breaks – and always earns 100% of average earnings).

Source: European Commission (2006)

Table 3 provides a comparison of net replacement ratio before and after the reforms in six countries (these calculations are derived by the Organisation for Economic Cooperation and Development [OECD], with a somewhat different set of assumptions than those calculated by the European Commission in Table 2). The results highlight the fact that the effect of reforms are substantially different across individuals who had earnings half the average, average and twice the average throughout their working career. In Germany, France, Sweden and the UK, the reforms had a redistributive element as the reforms made low-earning individuals better off (or less worse off) compared with the average- or high-earning individuals. This differential effect is much stronger in the UK and Sweden. In contrast, the reforms in Poland and Slovakia appear to reduce the redistributive element that was present in these former socialist systems. The reduction of the redistributive element is consistent with the fact that in the reformed systems benefits are closely linked with the contributory record of the individual in question.

Table 3: Entitlements (net replacement rates) before and after pension reforms at different levels of earnings (%)

Country	Earnings level	Before	After	Change
Germany	Half the average	66.3	53.4	-19.5%
	Average	79.5	58.0	-27.0%
	Twice the average	65.2	44.4	-31.9%
France	Half the average	79.8	78.4	-1.8%
	Average	78.1	63.1	-19.2%
	Twice the average	66.6	55.4	-16.8%
UK	Half the average	53.9	66.1	22.6%
	Average	41.1	41.1	0.0%
	Twice the average	24.0	24.0	0.0%
Sweden	Half the average	84.9	81.4	-4.1%
	Average	79.8	64.0	-19.8%
	Twice the average	81.5	73.9	-9.3%
Poland	Half the average	96.1	74.5	-22.5%
	Average	76.0	74.9	-1.4%
	Twice the average	67.1	77.1	14.9%
Slovakia	Half the average	76.1	66.4	-12.7%
	Average	76.4	72.9	-4.6%
	Twice the average	40.2	76.7	90.8%

Source: OECD (2007)

These results indicate one fundamental and frequently ignored effect of the systemic reforms enacted in recent years – their effect on redistribution. While DC systems can be lauded as being actuarially fair and offering clear incentives to individuals to work and save more for their retirement, this same advantage implies that redistribution cannot be achieved without fundamentally going back to some concept of a defined benefit for certain groups (through, for example, minimum thresholds). For instance, the link

introduced between payroll contributions and benefits increases substantially the importance of how pension systems compensate for absences from the labour market (such as those due to sickness and disability, and those for childcare). Fultz and Steinhilber (2003) reports that in Hungary contributors to the personal accounts system contribute 6% of their childcare benefit to the pension system (instead of having credits as under the old system) and since this benefit is much less than wages, carers in Hungary will be worse off. In Poland the state pays a subsidy but this is based on the minimum wage and is much less generous than it was before. By contrast, in Sweden the state gives extra pension rights to parents with children under four, although Sweden's 2005 National Strategy Report on adequate and sustainable pensions still stated that while *'in principle, the national pension system gives everyone the same possibilities of building an adequate pension . . . many women still devote more time to unpaid work and less time to paid work than men, which results in lower average pensions for women'* (National Strategy Reports, 2005, pp 26-7).

Conclusions

In the current period, pension reforms are driven mainly by increased concerns for the impact of ageing on public expenditures and a need for fiscal consolidation. A common trend is that the pension benefits drawn from the public pension systems are on the decline, and thus the average public pension benefit ratio has dropped in the majority countries. Moreover, systemic reforms have changed the nature of pension provision from defined benefit type provisions to defined contribution type provisions. In general, but with exceptions, this type of change is likely to shift more risks towards individuals concerned (of the same generation), with a more restricted redistribution in favour of lower-income individuals.

Now that the effect of reforms on generosity is becoming clearer, particularly through the work on pension adequacy conducted by the EU and the OECD, there needs to be a reassessment of reforms looking for best practices in dealing with challenges posed by population ageing for the social sustainability of both current and future generations. In most cases, the impact of these reforms on adequacy of pension benefits does not appear to have been given sufficient assessment. In particular, the effects on particular groups, such as women and lower-income earners, have not been assessed in great

depth. For these reforms to prove long lasting, they need to be accompanied by changes in saving and working behaviour, unless European societies are ready to tolerate a substantial decrease in the living standards of older people and a significant increase in income inequality during retirement. Similarly the reduction in overall generosity increases the importance of ensuring the presence of an adequate safety net, possibly in the form of minimum income guarantees.

The policy experience of the UK over the past two and half decades offers clear lessons for other European countries. The linking of the basic state pension to prices only, the policy in place since the 1983 reforms of Margaret Thatcher's administration, was leading to an ever-falling level of state pensions. This drop in generosity has been halted in recent years, with measures such as the introduction of Pension Credit and the state second pension. Coincidentally pensioner poverty in the UK declined significantly in recent years. The propositions set forth in the White Paper *Security in retirement: Towards a new pension system* (DWP, 2006), such as the relinking of the basic state pension to earnings and measures to set up a centralised system of personal accounts, also imply a move away from the purely voluntary approach to pension provision advocated in the 1980s. The UK experience may thus be taken as an example of how pension reforms that look solely at ensuring fiscal sustainability may require further policy changes once the effects on pensioners' benefits and poverty risks become more apparent. European policy makers, therefore, face the challenge of ensuring that reforms should aim not only for sustainable pensions but also on providing adequate levels of pensions that will keep poverty risks for future pensioners at a low level.

Notes

¹ Over the next 50 years, public spending on pensions is expected to decline in Estonia, Latvia, Malta, Austria and Poland, and it will remain relatively unchanged in Italy and Sweden. When one compares the projections of pension spending made in 2001 by the Economic Policy Committee and the European Commission with those made in 2006, one finds that reforms made in just five years have managed to cut back more than a third of the projected impact of ageing on public expenditures (Economic Policy Committee, 2006). This downward revision was achieved despite that the new projections are based on assumptions of a sharper acceleration in ageing.

² A pension scheme where the pension benefits are related to the member's pensionable earnings (either at retirement or during earlier working life) and number of contributory or credited years is known as a defined benefit scheme; and a pension scheme in which the pension benefits are linked to the pension fund value – dependent upon the contributions made into the fund, retirement age and also investment returns – is known as a defined contribution scheme. We refer to them as DB and DC schemes, respectively.

³ In a way this is what is happening in the UK, where a relaxation of benefit requirements and a further move towards flat-rate pensions provides a better chance for low-income individuals to have entitlement to state pensions. Moreover, the increase in the State Pension age is being accompanied by a restoration of the earnings uprating of the Basic State Pension, which will be more beneficial to women who live longer than men.

⁴ To ensure better coverage of its basic state pension, the UK has gone as far as actually reducing contribution requirements, and removing minimum conditions. Similarly, the Netherlands and many Scandinavian countries ensure that their pension system provides a safety net for all by giving a basic pension to every person resident in their country.

⁵ Germany's 'sustainability factor' links annual pension indexing to changes in the ratio of pensioners to workers supporting the system. German pensions are tied to a basic pension point value component, which, in turn, is indexed to annual net wage growth. This pension-point value component is adjusted in line with the sustainability factor, so as to lower pension payouts for all German retirees as the pensioner-to-worker ratio increases over time.

⁶ The multi-pillar framework of pension systems consists of: (1) a publicly managed, tax-financed pension system; (2) a privately managed, funded scheme of personal accounts; and (3) voluntary

retirement savings. Our discussion focuses mainly on the implications of the second pillar (that is, setting up of personal accounts).

⁷ The average Chilean worker pays into the system about half of the time. Three quarters of those not making contributions are women. See Mitchell (2005) for more details.

⁸ Note that the benefit ratio does not measure the level of the pension for any individual relative to his/her own wage and, hence, is not equivalent to a replacement rate indicator.

⁹ In effect this means that this maximum rises by two thirds of the increase in the social wage, which in turn is the minimum wage plus some other social benefits. This wage is usually increased in line with inflation.

References

Capretta, J. (2006) 'Building automatic solvency into US social security: insights from Sweden and Germany', Policy Brief No 151, Washington DC: The Brookings Institution.

Carone, G. (2005) *Long-term labour force projections for the 25 EU member states: A set of data for assessing the economic impact of ageing*, European Commission Economic Paper No. 235, Brussels: European Commission, Directorate General for Economic and Financial Affairs.

Chlon-Dominczak, A. (2000) *Pension reform and public information in Poland*, Social Protection Discussion Paper Series, No.19, Washington DC: World Bank.

DWP (Department for Work and Pensions) (2006) *Security in retirement: Towards a new pension system*, Cm 6841, London: The Stationery Office

Economic Policy Committee (2006) *The impact of ageing on public expenditure: Projections for the EU25 member states on pensions, health care, long-term care, education and unemployment transfers (2004-2050)*, Brussels: European Commission, Directorate General for Economic and Financial Affairs.

EC (European Commission) (2006) 'Annex to the COM (2006) 62 – Synthesis report on adequate and sustainable pensions', Commission Staff Working Document, COM(2006) 62 final, Brussels (http://ec.europa.eu/employment_social/social_protection/pensions_en.htm).

Franco, D. and Sartor, N. (2006) 'NDCs in Italy: unsatisfactory present, uncertain future', in R. Holzmann and E. Palmer (eds) *Pension reform: Issues and prospects for non-financial defined contribution (NDC) schemes*, Washington DC: World Bank.

Fultz, E. and Steinhilber, S. (2003), 'The gender dimensions of social security reform in the Czech Republic, Hungary and Poland', in E. Fultz, M. Ruck and S. Steinhilber (eds) *The gender dimensions of social security reforms in Central and Eastern Europe: Case studies of the Czech Republic, Hungary and Poland*, Budapest: International Labour Organization.

Mitchell, O. (2005) *How well has Chile's retirement program aged?*, Philadelphia, PA: Wharton Pension Research Council.

National Strategy Reports (2005) *The Swedish National Strategy Report on adequate and sustainable pensions*, Brussels: European Commission (http://ec.europa.eu/employment_social/social_protection/docs/2005/sv_en.pdf).

OECD (Organisation for Economic Co-operation and Development) (2007) *Pensions at a glance: Public policies across OECD countries*, Paris: OECD.

Orban, G. and Palotai, D. (2005) *The sustainability of the Hungarian pension system: A reassessment*, Budapest: Magyar Nemzeti Bank.

Pension Commission (2005) 'A new pension settlement for the twenty-first century – the second report of the Pensions Commission', London.

Whitehouse, E. (2000) *Paying for pensions: An international comparison of administrative charges in funded retirement-income systems*, London: Financial Services Authority.

Whitehouse, E. (2005) Oral presentation of OECD calculations, Prague, December.

Zaidi, A., Marin, B. and Fuchs, M. (2006) *Pension policy in EU25 and its possible impact on elderly poverty*, Vienna: European Centre for Social Welfare Policy and Research (www.euro.centre.org/data/1159256548_97659.pdf).