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**PENSION POLICY:
NEW EVIDENCE ON
KEY ISSUES**

**TIM CALLAN
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EXECUTIVE SUMMARY

Context

Pension systems world-wide face major long-term challenges in providing adequate incomes in retirement to an ageing population. Ireland is no exception. While at present there are more than five people of working age for each person of pension age, by 2061, assuming pension age is unchanged, there would be no more than two. Defined benefit (DB) schemes have come under particular pressure, and a shift from defined benefit to defined contribution (DC) schemes has been evident in Ireland as in other countries. In part, this reflects the fact that DB schemes tend to place the risk arising from increased longevity on the scheme funder, whereas DC schemes limit the liability of the funder but put a greater risk on the pension-holder. The government's *Green Paper on Pensions* explored how the Irish pensions system might best be reformed to address the challenges of providing adequate pensions at an affordable cost in the context of increased longevity. In doing so, it raised a number of key questions for consideration. This study is designed to provide new evidence on some of these questions, relating mainly to the structuring of tax incentives to encourage improved coverage of private pensions. Earlier this year the government introduced a "Pension-related Deduction" – more commonly called the public service pension levy. We examine the nature of this policy instrument, and how it is to be interpreted.

International Evidence

To what extent do tax incentives induce new savings for retirement? Also to what extent do they simply subsidise pension contributions which would have taken place in the absence of the incentive, or lead to a reallocation of savings towards the tax-favoured option, rather than a net increase in savings. These issues have been extensively investigated in both the US and the UK, where tax incentives for retirement saving have been much used. There is, as yet, no consensus on this. Some recent studies of Individual Retirement Accounts in the US, and Tax Exempt Special Savings Accounts (TESSA) and Individual Savings Accounts (ISA) in the UK conclude that only small fractions of the amounts saved in these schemes represented new savings. The corollary is that these policies have been an expensive means of encouraging saving, with large deadweight losses associated with the reshuffling of existing savings. Other studies see policy changes encouraging individual retirement accounts as having contributed to an enormous increase in defined contribution plan assets and more than offsetting declines in defined benefit plans. Whatever about the overall impact on new savings, it has been found that households who normally save the most were largely contributing funds that they would have saved anyway. Taken together, these results suggest that tax incentives do face a substantial "deadweight" problem, of subsidising savings that would take place anyway; and that this is particularly so for those at higher incomes.

Framework

We explore the direct impact of changes in the tax treatment of pensions using the *SWITCH* tax-benefit model. The model simulates the tax liabilities and benefit entitlements of a nationally representative sample of households – the data are drawn from the CSO’s Survey on Income and Living Conditions (EU SILC) for 2005. A weighting scheme is used to adjust the data to represent the demographic situation in 2030 and 2050. All of the model results are based on the technical assumption of no change in behaviour. The fact that social welfare entitlements are incorporated in the model means that it is possible to analyse the direct impact of restrictions on income tax relief, coupled with an increase in social welfare pensions. These results could equally be interpreted in terms of changes in taxes helping to sustain existing levels of payment.

Implications of Long-run Changes in Pension Coverage

Before analysing potential policy changes, we examine the potential impact of trends towards increasing coverage in occupational and private pensions, and in qualification rates for the contributory State Pension. Occupational/private pension coverage among current pensioners is about 30 per cent, but stands at about 60 per cent for the over 30s. This difference reflects the fact that the rate of pension coverage has been rising over time. If this higher rate of coverage is sustained then future pensioner populations will be more likely to have an entitlement to a private or occupational pension than the current cohort of pensioners. What implications would this have for the “at risk of poverty” measure for future pensioners? We estimate that this factor could reduce the “at risk of poverty” measure by about one-third – both in terms of the familiar head count ratio, but also in terms of broader measures taking account of the depth of poverty. In a similar fashion, we analyse the impact of increased rates of qualification for the contributory State Pension. This factor could lead to a reduction in the head count of poverty of about one-fifth, and would also help to reduce the depth of poverty.

Tax Treatment of Pensions

Debate about the appropriate tax base has, in the past, often been characterised as a contest between an income base and an expenditure base. More recent reviews of this area conclude that the optimal tax system contains some form of taxation of capital income, and a more productive question is how to tax capital income, given that earnings are subject to tax.

In this context we examine some possible changes to the current tax treatment of pensions, which can be characterised as following expenditure tax lines, while most direct taxes operate using income as a base. One alternative is that relief on contributions could be restricted to the standard rate of tax. This would imply a reduction in income tax relief for top rate taxpayers, but no change for those paying the standard rate. Our main findings include the following:

- Standardisation of relief on all pension contributions (employee, employer and implicit government contributions) could raise revenue of over €1,000 million per annum.
- More than four-fifths of the revenue raised would come from the richest one-fifth of tax units.

- Revenue raised could be applied to sustaining State pension levels as demographic pressures on the financing of public pensions intensify.
- An increase in the relief from the standardised level to allow relief at a hybrid, 30 per cent rate – an option similar to that recommended by the Commission on Taxation would lead to gains which are concentrated on those with high incomes; but compared to the present situation would involve gains for standard rate taxpayers and losses for top rate taxpayers.

Currently, tax relief on pension contributions is of greatest value to those with incomes high enough to pay the top rate of tax. Evidence from UK and US studies suggests that there is significant deadweight loss associated with such incentives, and that there are a number of key factors outside of tax incentives which can be changed to promote greater pension coverage. Our reading of this international evidence, and of our own findings, is that take-up of pensions among those on low to middle incomes would be best tackled by measures addressing the decision costs which pose an obstacle to enrolment in pension schemes. These could include what the Green Paper terms a “soft mandatory” scheme, in which the default option is enrolment in the scheme, but individuals may exercise their right to opt out; and a system of partial matching of contributions, at a single rate, rather than tax relief.

Public Service Pension Levy (Pension-Related Deduction)

The pension-related deduction was introduced in response to a crisis in the public finances. Should it now be regarded as a temporary measure, to be reversed or revised? Or should it be seen as a new instrument of policy for the longer term, giving government new leverage to attain goals with respect to public finance outcomes, public-private sector wage differentials and/or income distribution? Our analysis suggests some caution is appropriate in thinking about a future role for the pension-related deduction.

Perhaps the strongest rationale for the pension-related deduction is that it serves as a mechanism for reducing net public sector spending, while avoiding the political economy difficulties of reducing wage rates explicitly. However, there are serious disadvantages associated with achieving the cost reduction in this fashion, which involves concentrating the burden of adjustment on those currently in employment, while they are in employment. An explicit wage rate reduction would also reduce the incomes of current *and future* pensioners. The pension-related deduction does not do this. In this way, it increases the replacement rates for public sector workers facing retirement decisions – tending to reduce labour supply, in a similar way to an income tax increase. Moreover, the progressive structure of the levy may damage labour market efficiency in the public sector. Broader tax/welfare measures to achieve distributional and anti-poverty goals may be more appropriate.

1. INTRODUCTION

1.1 Context of the Study

The long-term challenges facing pension systems worldwide have been compounded by the current economic crisis.¹ OECD (2009) estimates that private pension funds worldwide lost more than one-fifth of their value during 2008, with losses for Irish funds exceeding one-third. Despite this, the OECD argues that *Diversifying pension provision remains the right strategy, in the face of demographic, political, economic and financial risks* (OECD, 2009).

Restructuring Ireland's pension system to deal with the challenges ahead was the theme of the *Green Paper on Pensions* (Department of Social and Family Affairs, 2007). These challenges include the ageing of the population, with the ratio of those aged 65 years and over to those aged 18-64 years rising from 20 per cent at present to around 50 per cent in 2061. The Green Paper outlined four broad approaches to the development of the pension system:

1. Enhancement of the current system of voluntary pension provision, through a system of matching contributions from the State or provision of tax relief at the top rate of income tax in respect of *all* contributors.
2. Introduction of a mandatory pension scheme, with a total contribution of 15 per cent of eligible income, of which 5 per cent (one-third) would be from the State. As set out in the Green Paper, this State contribution would be in place of tax reliefs on pension contributions currently provided.
3. A so-called "soft mandatory" approach would involve mandatory enrolment in a pension scheme, but allow for individuals to opt out after a certain period. This need not be a "one-shot" process; the default option might be that the process is repeated several times, so that after a few years, individuals who had opted out would be enrolled in the scheme – unless they chose to opt out again.
4. The Green Paper also considers the provision of enhanced social welfare benefits, for example, a phased increase in the level of Social Welfare pensions relative to average earnings, combined with a gradual increase in the retirement age.

In the course of its examination of these options, the Green Paper highlights a number of "questions for consideration". This report focuses on a selection of these questions, relating mainly to alternative forms of tax relief or other forms of state subsidy to private pensions, and the role of

¹ Measures to tackle the immediate crisis are discussed by OECD (2009) and are not the subject of this study.

the State Pension (formerly Old Age Pension). We provide new evidence on these issues using *SWITCH*, the ESRI tax-benefit model, to analyse questions concerning the impact of changes in tax reliefs. *SWITCH* is based on data from the Central Statistics Office's (CSO) EU Survey of Income and Living Conditions (EU-SILC) for 2005.

1.2 Outline of the Study

The main focus of this study is an analysis of Irish data in order to add to the available evidence to inform policy choices. To begin, however, Chapter 2 undertakes a brief review of some key international pension studies, particularly those focusing on the impact of changes in financial incentives affecting choices regarding pension coverage and age at retirement. The recent and rapidly growing literature on non-financial factors influencing retirement savings is also considered. The implications of the findings of these different studies for policy design in Ireland are summarised.

Chapter 3 outlines the framework used for the analysis. The starting point is the *SWITCH* model, based on the CSO's EU SILC for 2005. We describe how the model was adapted for the present study, to take account of the rising proportion of elderly persons in the Irish population in the next 20 to 40 years. Chapter 4 considers how some long-run changes may affect the relative income position of the elderly. In particular, we examine the possible impact of the higher rates of pension coverage of current working age cohorts compared with those currently retired, which may affect the "at risk of poverty" rate for the elderly in future. Similarly, we consider the possible impact of higher rates of qualification for the State Contributory Pension² in the future.

The overall objectives of public policy on pensions are summarised in the Green Paper as providing an adequate basic standard of living through direct State support; and encouraging supplementary pension provision to provide an adequate replacement income. In this regard, the overall constraints on public finances mean that a key trade off is between the level of the State Pension and the extent of support provided for private (supplementary) provision. Support for supplementary pensions is, at present, mainly through tax relief on the superannuation contributions of employees and employers and the pension contributions of the self-employed. Chapter 5 examines three critical questions posed in the Green Paper regarding this trade off in the design of retirement savings incentives.

- (a) Can tax incentives be better targeted to encourage improved coverage in a cost-effective way?
- (b) Should the over-riding principle be coverage or equity?
- (c) Should incentives be offered at the marginal, standard or a hybrid rate?

² The State Contributory Pension is paid to those aged 66 years or over and meeting conditions regarding social insurance contributions. Specifically, to qualify the person must have paid social insurance contributions before a certain age, have a certain number of social insurance contributions paid, and have a certain average number over the years since they first started to pay. Those not qualifying may be entitled to a State Non-contributory Pension, which is means-tested.

Issues to be examined in this context include:

1. What would be the direct cost implications of alternative levels of tax relief (marginal rate versus standard rating)? In other words, what would be the impact effect on tax revenues if behaviour remained unchanged?
2. What would be the direct implications of this on income distribution and the “at risk of poverty” measure? Here we would explore the rebalancing of tax relief, with resources generated being targeted through the social welfare system. Again, the analysis is undertaken on a “static” basis, with unchanged behaviour.

Chapter 6 reviews the structure of the recently introduced “Pension-Related Deduction” (PRD), more commonly known as the public service pension levy (PSPL). Should this levy be regarded as a pension contribution, a tax specific to the public sector, or a wage adjustment? This depends in part on the stated rationale for the levy, but also on its structure and impact which are carefully examined in this chapter.

The main findings of the research are drawn together in the concluding chapter, along with some key issues for further investigation.

2. PENSION INCENTIVES: SOME INTERNATIONAL EVIDENCE

2.1 Introduction

Our review of the international scene is necessarily selective – our aim is to highlight findings of particular relevance to the scope of this study. We begin, in Section 2.2, by looking at the UK Pensions Commission’s appraisal of the UK system and options for its reform (UK Pensions Commission, 2004 and 2005). Section 2.3 then reviews some key papers on the nature and strength of the responses to financial incentives for retirement savings in the UK and in the US, where extensive research on these issues has been conducted. Of course, many factors other than financial incentives influence retirement savings decisions. There has been a growing literature on how behavioural factors influence retirement savings, and how changes in the way savings and pension plans are structured can influence the degree to which they are taken up by different groups. Such studies are reviewed in Section 2.4. The main implications for Ireland are drawn together in the final section.

2.2 UK Pensions Commission

Before examining the analysis of the UK Pensions Commission, it is helpful to summarise some of the key similarities and differences between the Irish and UK situations. The structure of the Irish pension system has much in common with that of the UK. (We base these comparisons on the UK system as of 2006, before the introduction of the most recent reforms.) The similarities include the following:

- The broad structures of the pension systems are similar, with a social insurance based pension benefit, some means-tested benefits, and pensions from public sector employment funded on a pay-as-you-go (PAYG) basis.
- In the UK, about one pensioner in four needed to claim the (means-tested) Guarantee Credit in order to attain the minimum income set by the state. The proportion of Irish

pensioners in receipt of the means-tested non-contributory State Pension³ was similar.

- Overall, in 2003, some 54 per cent of people in work were covered by an occupational or private pension in the UK. The corresponding figure for Ireland was 55 per cent in 2005.
- In both countries, there has been a shift from the traditional defined benefit (DB) schemes, paying a pension which is a proportion of final salary, to defined contribution (DC) schemes, where the pension paid out in retirement depends on the amount paid in and the investment returns. Typically in the UK, and also in Ireland, the DC schemes have involved a lower employer contribution rate.

There are, however, a number of important differences between the Irish context and policy environment and that of the UK:

- The rate of payment for the UK's State Pension, even when topped up with a Pension Credit, is substantially lower than Ireland's – both in real terms and relative to average earnings.⁴
- Correspondingly, in the UK, the proportion of pensioners “at risk of poverty” was between 21 per cent and 27 per cent during the decade to 2006-07. Latest figures, for 2006-07, indicate a rate of 23.2 per cent.⁵ Irish figures were over 40 per cent around the turn of the century, but the most recent estimate for Ireland (from CSO's SILC 2006 data) is 13.6 per cent, reflecting higher State Pension payment rates.
- While the sources of the demographic challenge (increasing longevity, declining fertility and relative decline in the working age cohort) are similar, there are differences in the timing.

Given the many similarities in the UK and Irish situations, the reforms proposed by the UK Pensions Commission (and substantially adopted) are of particular interest. Three main areas for reform were highlighted (Hills, 2006):

1. Introduction of a low cost, funded National Pension Savings Scheme with employees automatically enrolled into this or employer schemes which meet a good-quality criterion. While

³ The State Non-Contributory Pension differs from the State Contributory Pension in that it is means tested. The contributory pension is not means tested and is paid to people age 66 years or over who have paid sufficient social insurance contributions. Persons aged over 66 years who do not qualify for the contributory pension are eligible to receive the non-contributory pension subject to satisfaction of the means test.

⁴ Currently, the UK Pension Credit guarantees an income (which may include a State Pension) of which, converted to a purchasing power equivalent in Ireland, approximates €160 per week, as compared with the personal rate for the Irish State Pension (Contributory) of €230 per week.

⁵ This is the “before housing costs” figure, which is more comparable with CSO and ESRI analyses for Ireland. The “after housing costs” figure for the UK is 19 per cent.

enrolment would be automatic, there would be a right to opt out, or to make higher contributions.

2. The State Pension would become less means-tested and more universal than under unchanged policies. To finance this, there would be additional public spending on pensions and a rise in State Pension ages over the long run.
3. Measures to facilitate later retirement.

Sefton *et al.* (2008) come to rather different conclusions about the potential role of means-testing in the UK State Pension system. They use a dynamic programming model to consider the effects of a recent policy reform that reduced the marginal tax rates on private income associated with some means-tested retirement benefits from 100 per cent down to 40 per cent. Their analysis suggests that this policy reform will encourage the poorest third of all households to both save more and delay retirement, and have the opposite effects on richer households. Overall their assessment is that the policy reform provides a reasonable compromise between the distortions associated with high marginal tax rates and the costs of universal benefits provision.

2.3 Pension Incentives: Evidence from the UK and the US

The US has had a number of major initiatives designed to increase pension coverage. Two of the most substantial are Individual Retirement Accounts (IRAs) and the 401(k) scheme.⁶ There has been a lively debate in the US concerning the extent to which such schemes add to national savings, or simply result in a reallocation of savings towards tax-preferred vehicles.

Poterba, Venti and Wise (2001) note that there have been dramatic changes in retirement saving between 1980 and 2000. In 1980, 92 per cent of private retirement saving contributions were to employer-based plans and 65 per cent of those contributions were to defined benefit plans. By 2000, about 85 per cent of private contributions were to plans in which individuals decide how much to contribute, how to invest the assets, and when to withdraw money from the plan. They conclude that *...the enormous increase in defined contribution plan assets dwarfed any potential displacement of defined benefit plan assets.*

Gale and Orszag (2003) find that, despite the complexities involved in the contribution of tax breaks to the value of pension entitlements, there are clear patterns in terms of the distributional impact:

High-income households are more likely to be covered by a pension. They are more likely to participate if they are eligible. The share of salary contributed, given participation, rises with earnings. And tax deferral is worth more to high-bracket than to low-bracket filers, a feature reinforced partly by the fact that high earners are likely to face a larger drop in marginal tax rates on retirement than are low earners.

⁶ These are a type of employer-sponsored defined contribution retirement plan under section 401(k) of the Internal Revenue Code.

They argue that high income households are more likely to be saving adequately for retirement even without pension incentives, and are more likely to divert other savings into pensions rather than to increase their total savings.

Why is participation so low among low-earners? One possibility is that their incomes may be too low to allow for saving. But as 60 per cent of households below the poverty line are found to make some savings, Gale and Orszag conclude that low income is far from a complete explanation for the low participation of low earners in pension plans. Furthermore, they note that a program which provided tax breaks and matching funds to encourage saving among participating low-income families (Sherraden, 2001) suggests that poor families will save if presented with financial incentives to do so. Thus, they suggest that an alternative and perhaps more plausible explanation for low participation is that *...tax incentives for retirement are meager for low-income households. Tax deferral means little to people whose tax rate is low or zero.*

A study by Benjamin (2003) has a number of features which improve on earlier estimates. In particular, it employs propensity score subclassification to control more completely for observed household characteristics, and controls for more household characteristics, including several correlated with unobserved savings preferences. He estimates that, on average, for every \$4 increase in the amounts saved in 401(k) accounts, about \$1 represents an increase in national savings.⁷ He notes, however, that households who normally save the most were largely contributing funds they would have saved anyway.

Recent UK reforms have offered new opportunities to analyse these issues. Attanasio and Rohwedder (2003) use three major UK pension reforms as “natural experiments” to investigate the relationship between accrual of entitlements under the state schemes, on the one hand (flat-rate Basic State Pension, BSP, and the State Earnings-Related Pension Scheme, SERPS) and discretionary private savings on the other. Their model uses both time-series and cross-sectional variation in a consistent way to identify the behavioural response. They find that changes in the earnings-related tier give rise to approximately offsetting changes in private savings, but that changes in the flat-rate tier of state support have no statistically significant effect on private savings. They conclude that reductions in state support for the earnings-related scheme would give rise to compensating increases in private saving; but that the same cannot be said for the basic State Pension.

Attanasio, Banks and Wakefield (2004) review empirical evidence from the UK and the US – two of the countries most active in encouraging retirement savings through favourable tax treatment for particular savings accounts. They examine the extent to which funds in some specific tax advantaged accounts in both the US and the UK. As regards the Individual Retirement Accounts or IRAs in the US, they conduct analysis using panel data on households taken over four quarters. In the period 1982 to 1986, IRAs were made universally available and there were many new

⁷ There is a bigger increase in private savings, but this is offset because of reductions in tax revenue due to the tax relief.

contributors. However, Attanasio *et al.*, find that evidence on both savings rates and on consumption are ...*consistent with the hypothesis that the IRAs were ineffective in creating new savings.*

Similarly, Attanasio *et al.*, use microdata from the British Household Panel Study and from the Family Resources Survey to examine whether the tax advantages provided by Tax Exempt Special Savings Accounts (TESSA) and Individual Savings Accounts (ISA) stimulated savings in the UK. Again they find that there is little evidence of such an increase. Their overall conclusion is:

The evidence presented in this paper for IRAs in the US, and TESSAs and ISAs in the UK, suggests that, at the most, only relatively small fractions of the funds going into tax-advantaged savings vehicles can be considered to be 'new' saving. As such, the best interpretation of the evidence is that such policies are expensive ways of encouraging savings.

2.4 Behavioural Issues

While much of the focus in terms of increasing pension coverage has centred on the level and structure of tax incentives, there is now a substantial body of evidence to show that a number of other factors play important roles in determining whether or not an individual opts for a pension or other retirement savings plan. These factors include the structuring of the “default option”; the way in which options are framed; and the influence of peers and social context. Some of these factors can be altered by governments and/or employers and/or pension providers in ways which lead to an increase in pension coverage without an associated increase in the cost of financial incentives. In this sub-section we outline a selection of key papers on such topics, and draw out some of the implications of this growing field of research for the debate on pension policy in Ireland.

Standard economic theory would suggest that faced with a choice between enrolment in a pension plan or non-enrolment, individuals would make the same choice irrespective of which option (enrolment or not) was the default. The real economic benefits and costs are not influenced by which is the default option. But Choi *et al.* (2002) show that participation in a tax-preferred savings plan was significantly higher when participation was the default option. Findings of this type underpin the use of “automatic enrolment” as a default option in pension schemes, while allowing individuals to opt-out. The UK Pensions Commission’s proposals made use of this feature in their proposals for a “soft mandatory” pension scheme.

Similarly, standard economic theory tends to focus on the net costs and benefits of different options: options with the same net benefit are regarded as equivalent to one another. But Duflo *et al.* (2005) found that a scheme known as Saver’s Credit, which effectively provided some matching support for retirement savings through the tax code, was less effective than a scheme which offered explicit matching funding. Their study was based on data from 14,000 individuals in low and middle-income neighbourhoods, If the behaviour of Irish taxpayers is similar, then what

has become known as an SSIA approach – offering an explicit “matching”⁸ funding – may be more effective than the identical support provided through a tax reduction, at least for low and middle income earners.

Thaler and Benartzi (2004) describe a successful programme known as “Save More Tomorrow”. This required participants to commit in advance to saving a proportion of future salary increases as retirement savings. They find that a high proportion (close to 80 per cent) joined the plan, and the vast majority of those followed through on their commitment (through 4 annual pay rises). The average savings rate for participants increased by 10 percentage points (to 13.6 per cent) over a 40-month period. Here the key factor is the dynamics of the decision making. The individuals make a pre-commitment regarding future salary increases. This leads to a substantial increase in savings over time.

Duflo and Saez (2003) show how social influences can affect such decisions. They provided a small financial incentive to selected employees to attend an information session on tax-deferred savings schemes. Higher participation in the schemes was found among those who attended; and also increased, by just as much, for those in the same department as attendees. Lusardi *et al.* (2009) provide another example. They used a “social marketing approach” to develop a planning tool, given to employees at a not-for-profit institution to help with three key obstacles to saving: insufficient information on how to save, insufficient information on the amount of savings needed to open a savings account, and a perceived lack of control over the savings process. The intervention led to a substantial increase in enrolment in savings plans, and Lusardi *et al.*, argue that there is scope for much wider application of their approach.

2.5 Implications for Ireland

To what extent do tax incentives induce new savings for retirement and to what extent do they simply subsidise pension contributions which would have taken place in the absence of the incentive, or lead to a reallocation of savings towards the tax-favoured option, rather than a net increase in savings? Evidence on these issues is very limited for Ireland, but there are lessons to be learned from research in the US and the UK, where tax incentives for retirement saving have been much used, and the availability of suitable data has permitted extensive research. There are conflicting results in the US literature. Poterba, Venti and Wise (2001) found that policy changes encouraging Individual Retirement Accounts (IRAs) led to enormous increases in defined contribution plan assets, more than offsetting declines in defined benefit plans. However, these results are challenged by a number of other authors. Attanasio *et al.* (2004) examined the extent to which IRAs in the US, and Tax Exempt Special Savings Accounts (TESSA) and Individual Savings Accounts (ISA) in the UK represented new savings, and concluded that only small fractions of the amounts saved in these schemes represented new savings. They conclude that these policies have been an expensive means of encouraging saving, with large deadweight losses associated with the reshuffling of existing savings. Benjamin (2003) estimates that about half of the savings under the US scheme known as 401(k) represent new private savings, but only about

⁸ It should be noted that the matching need not be 1 for 1. In the case of the SSIA scheme it was €1 for €4 of savings in the scheme.

one-quarter represent new national savings. He notes, however, that households who normally save the most were largely contributing funds that they would have saved anyway. Taken together, these results suggest that tax incentives do face a substantial “deadweight” problem, of subsidising savings that would take place anyway; and that this is particularly so for those at higher incomes. This suggests that in the Irish context, restrictions on relief to top rate taxpayers may be advisable, and these are explored in Chapter 5.

Financial incentives are far from the only factor influencing participation in pension schemes and retirement savings. A growing literature on behavioural factors influencing retirement savings decisions indicates that such elements as the default option faced by individuals; the way in which financial incentives are framed – explicit matching versus tax reductions; and social context can have important consequences for pension savings decisions. Some of these factors can be influenced by public policy, and by employers in ways which could boost pension coverage by more than increases in financial incentives, with their attendant costs. We return to this issue in the concluding chapter.

3. FRAMEWORK FOR THE ANALYSIS

3.1 Introduction

In this chapter we describe the framework used in our analysis. Following a short description of the *SWITCH* model (Section 3.2) we outline the way in which the model has been adapted to examine the implications of some long-term trends and of some policy choices in the context of the ageing of the Irish population over the next 20 to 40 years (Section 3.3). The measures of “at risk of poverty” used in the study are explained in Section 3.4. Applications of the framework are then described in Chapters 4 and 5.

3.2 *SWITCH*, the ESRI Tax-benefit Model

SWITCH is a tax-benefit model designed to calculate the income tax liabilities and social welfare entitlements of a nationally representative sample of households. The model can simulate welfare entitlements, income tax and employee PRSI under the actual rules for a particular year and under alternative policy rules of interest (e.g., potential future reforms). Policy options which can be analysed include changes to the personal and qualified adult rates of payment for different social welfare schemes, changes in the amounts paid as child dependant additions, and more structural reforms such as the introduction of a “Child Benefit Supplement”. On the tax side, the model allows for changes in tax rates, tax bands and tax credits. The implications can then be simulated for each tax unit in the sample, and the results analysed in terms of the impact on the distribution of income, or across family types, and the implications for “at risk of poverty” measures (described at the end of this chapter).

The model has been rebased to use data from the CSO’s 2005 Survey on Income and Living Conditions (EU SILC). We base our initial analysis on this year, and, as will be explained, look also at how these results would be affected by changes in the age structure of the population as projected for 2030 and 2050 by the ESRI’s *Medium-Term Review* (2008). It should be stressed that these are not fully-fledged analyses of scenarios for 2030 and 2050; rather, they are analyses of the 2005 situation, with an adjustment to the population structure matching the 2030 or 2050 projection from the *Medium-Term Review* (2008). Some analyses are also undertaken which take account of policy changes up to 2008, to incorporate the fall in the “at risk of poverty” measures for older people seen in the 2006 SILC and as projected by the *SWITCH* model.

For the present study, a key task was to construct variables measuring pension contributions so that various analyses of pension coverage and the tax treatment of pensions could be undertaken. EU SILC includes a number of items of information on pensions:

- whether or not a pension contribution was made from the person's last wage;
- the amount of contribution that was made;
- whether or not the person will be covered by a pension when they retire;
- who makes contributions to the pension that the person will receive;
- amounts paid to personal pension plans such as Retirement Annuity Contracts (RACs) and Personal Retirement Savings Accounts (PRSAs).

We use a combination of these individual items to determine:

- whether or not a person is covered by a pension;
- the amount of employee contributions;
- the amount paid in respect of personal pension plans (RACs, PRSAs).

For those who indicate that they make a contribution from their wage, but do not report the amount of the deduction, we assume a contribution of just under 5 per cent of gross salary – the average rate of contribution for those making a contribution.

There is no direct information on the amount of contributions by employers. We have therefore imputed employer contributions, in the case where individuals are covered by an occupational pension, by assuming a total contribution by employer and employee of 15 per cent (i.e. the employer contribution is 15 per cent of gross income minus the percentage contribution made by the employee). First, we need to distinguish between public and private sector workers with limited data, our approach is as follows:

- All those with a non-contributory pension scheme are assigned to the public service.
- If the industry code or occupation code indicates that an individual is in the public sector (e.g., civil service, defence, primary education) then he or she is categorised as a member of the public service pension scheme.

While complete accuracy cannot be expected from these procedures, the aggregate numbers of public service pensioners identified in this way are broadly in line with available evidence on public service scheme membership.

For private sector employers, a contribution is imputed at 15 per cent of gross salary, less the employee contribution. Thus, the total contribution for employees in the private sector is taken as 15 per cent. As pension contributions are a tax efficient way of rewarding employees, and particularly so for top rate taxpayers, it may be expected that total pension contribution rates will tend, on average, to rise with income. This is not taken into account in the present study. As a result, the concentration of pension benefits (and associated tax benefits) towards the top of the

income distribution is probably somewhat understated by the present analyses.

The issues in the public sector are more complex, as the scheme is funded not on explicit contributions, but on a pay-as-you-go basis. However, in order to ensure an equitable treatment of private sector and public sector workers it would be necessary to attribute a value to the government's implicit contribution. The rationale for this is explained more fully in Callan *et al.* (2007), and a similar point is also made by the Irish Association of Pension Funds IAPF (2008). The Report of the Public Service Benchmarking Body (2007) includes a special study on the relative value of public and private sector pensions. On the basis of this report, the Body took the view that *A fair rate for the employer cost of the bulk of the public service is just over 20 per cent of salary*. Here we assign an implicit employer contribution from the State of 20 per cent. The report of the Benchmarking Body indicates that, on average, employee contributions to public service schemes are close to 5½ per cent, making for an aggregate “contribution” of 25½ per cent.⁹

The overall coverage rate estimated on this basis is somewhat lower than that as estimated from the Quarterly National Household Survey (QNHS) pension modules. It seems likely that this relates to the fact that information is obtained through proxy interviews for some individuals in EU SILC. A weighting adjustment was constructed to take account of this, so as to match the coverage rate from the QNHS.

As a number of the questions posed in the Green Paper relate to the tax treatment of pensions, it is helpful to examine how *SWITCH*-based estimates of the “revenue foregone” by exempting pension contributions from income tax relate to official estimates produced by Revenue for the Green Paper. Table 3.1 summarises this comparison.¹⁰ It can be seen that, in aggregate, the *SWITCH*-based estimate of revenue foregone in 2005 is about 10 per cent lower than the Green Paper estimate for 2006. There is, however, a difference in the composition, with the official estimate showing a much greater revenue cost for personal pensions (retirement annuity contracts and PRSAs). Lower cost estimates for this item are offset in *SWITCH* by higher cost estimates for employer, and particularly employee contributions. It would not be expected that survey based estimates would exactly replicate the aggregates arrived at in the Green Paper, which was able to analyse administrative records. But the survey-based data can provide answers to questions which are simply unanswerable from the administrative database, and the fact that the overall scale of tax relief is of a similar magnitude means that the results of *SWITCH*-based analyses are clearly relevant to current policy debate.

⁹ For a change in the tax treatment of this aggregate contribution to gain effective revenue, the incidence of the change would effectively have to be on employees. While the structure of the recent Pension-Related Deduction (PRD or Public Service Pension Levy) does not operate in this way, the structure of the legislation suggests that this would be feasible. Chapter 6 deals in more detail with the nature of the PRD.

¹⁰ It should be noted also that in comparison we have focused solely on the income tax revenue foregone – elements totalling €340 million relating to corporation tax and to employer and employee PRSI are identified separately in the Green Paper but are not included in the comparison undertaken here.

Table 3.1: Estimates of Revenue Foregone from Exemption of Superannuation/Pension Contributions, Official Sources and SWITCH Model

	Green Paper, Table 7.2 (2006)	SWITCH (2005)
Employee Contributions	540	643
Employer Contributions	510	544
Personal Pensions	500	221
Subtotal, Non-government Contributions	1,550	1,408
Government Contributions	n.a.	904
Overall Total	n.a.	2,312

Before undertaking policy analysis on this database, it is informative to look at the distribution of pension coverage across income levels. Table 3.2 shows that pension coverage is close to 20 per cent for the lowest 3 deciles of earnings, and then rises steadily with income to reach levels over 90 per cent for the top one-tenth of earnings.

Table 3.2: Pension Coverage by Decile of Earnings

Decile	Pension Coverage Rate %
Lowest	19.6
2	17.6
3	23.2
4	34.1
5	45.2
6	55.2
7	62.5
8	74.5
9	83.7
Highest	94.2
Overall Coverage	51.0

Table 3.3: Pension Coverage by Decile of Earnings and Age Category

Deciles of income (all age groups)	Age			Total
	20-29 Years	30-44 Years	45-64 Years	
1	13	33	15	20
2	6	23	21	18
3	9	29	33	23
4	18	41	45	34
5	25	52	62	45
6	34	65	70	55
7	38	66	74	63
8	49	79	81	74
9	58	87	86	84
10	33	93	97	94
Total	25	60	59	51

Earnings tend to rise with age (and experience) and pension coverage also tends to rise with age. In order to examine the extent to which this overall association between earnings and pension coverage relates to these

factors, we examine the relationship between pension coverage and earnings deciles for three different age groups – 20 to 29 years, 30 to 44 years and 45 to 64 years. The results are reported in Table 3.3. For each of the older age groups, 30 to 44 years and 45 to 64 years, the pattern is similar to the aggregate one. Pension coverage rates are low for those in the lower earnings deciles, and rise with income. For the youngest age group, lowest coverage is in the bottom half of the distribution, with coverage rising through upper earnings deciles. The exception is the top earnings decile, but the numbers of 20-29 year olds in this category are very small.

3.3 Changes in Demographic Structure

Our analysis goes beyond the usual framework for tax-benefit models, which is calibrated to the next budgetary year or a small number of years ahead. Instead, it is linked to demographic projections which take account of the expected rise in the ratio of people of pension age to the working age population (the Pensioner Support Ratio) over the medium to long term.¹¹

Table 3.4 shows the age distribution of the population as revealed by the most recent Census, and the projected age distributions of the population for 2030 and 2050, from the demographic model used in the *Medium-Term Review* (2008).

Table 3.4: Age Distribution of the Population, Census 2006 and Projections for 2030 and 2050

	Census 2006	MTR Projection 2030	MTR Projection 2050
	000s	000s	000s
	%	%	%
Age less than 15 years	20.4	17.9	16.6
Age 15 up to 24 years	14.9	12.6	10.2
Aged 25 up to 44 years	31.7	23.5	23.4
Aged 45 up to 64 years	21.9	27.8	22.0
Aged 65 years or over	11.0	18.2	27.9
Total	100.0	100.0	100.0

A sharp rise in the expected elderly population is evident. The total population is projected to rise from its 2006 level by 28 per cent up to 2030 and by 40 per cent to 2050. A much faster growth is expected for those aged 65 years or over, where the number of elderly persons more than doubles to 2030, and will have more than trebled by 2050. As a proportion of the total population, those aged over 65 years are projected to rise from 11 per cent in 2006 to 18 per cent in 2030 and 28 per cent in 2050. The *SWITCH* model has been extended to use estimated weights which take account of this demographic shift.

¹¹ With aggregate demographic projections, a common approach is to explore the sensitivity of results to alternative demographic assumptions. Our work breaks new ground in providing analyses based on a projected micro-database under scenarios for 2030 and 2050. The issue of exploring sensitivity of results to alternative demographic assumptions is a challenging one for future research.

3.4 Measures of Poverty

The overall target adopted in the National Action Plan for Social Inclusion is framed in terms of “consistent poverty”¹² – a measure designed to identify those who are suffering basic deprivation due to lack of resources. The measure currently used in the National Action Plan is based on individuals falling below 60 per cent of median disposable income (adjusted for family size and composition), and deprived of two or more items from a list of 11 basic necessities.¹³ At EU level, there is not, as yet, an officially agreed measure of poverty along the lines of Ireland’s consistent poverty measure. The EU has, however, agreed on a set of indicators¹⁴ for use in monitoring progress towards greater social inclusion. The most prominent of these measures is termed the “at risk of poverty” rate. It is simply the proportion of the population falling below certain proportions of median income – often termed the relative (income) poverty rate in the academic literature, or simply relative poverty. The EU’s use of the term “at risk of poverty” recognises that not all of those falling below such income cut-offs would be classed as “poor”. Ireland, like other EU countries, has agreed to the use of this measure to monitor progress.

In this study, we focus on the impact of demographic shifts and policy changes on the “at risk of poverty” measures, which depend simply on income information. *SWITCH*, like other tax-benefit models, can project and analyse cash changes in income. It is not currently feasible to project the impact of income changes on the deprivation levels of individual households, but work has begun on a study of the aggregate relationship between income changes and consistent poverty.

In addition to this practical consideration, there are several reasons why the “at risk of poverty” is of interest.

1. The National Anti-Poverty Strategy’s “poverty impact assessment” procedures play a key role in implementing the strategy. Under these procedures policy proposals are assessed not only to gauge their likely impact on poverty, but also their impact “...on inequalities which are likely to lead to poverty” (Office for Social Inclusion, 2006). The “at-risk-of-poverty” measure is clearly relevant in this context.
2. While the National Anti-Poverty Strategy (NAPS) targets are set in terms of the “consistent poverty” measure, there are commitments at EU level which relate to the EU “best practice” in terms of the “at risk of poverty” measures.
3. More fundamentally, the “at risk of poverty” measures provide a way of measuring poverty which automatically ensure that poverty standards rise in line with real income growth. Most would agree that poverty standards of a century ago could no longer be used to define what constitutes poverty in present-day society: it is not enough that the poor have experienced real

¹² The concept of consistent poverty was developed by Nolan and Whelan (1996) and adopted as the basis for measuring and monitoring poverty levels by the National Anti-Poverty Strategy.

¹³ For details see Whelan, Nolan and Maître (2006).

¹⁴ These are termed the Laeken indicators, after the venue of the European Council meeting which agreed on them.

income gains over the past century (welcome though this is) if they have not got the resources to participate fully in contemporary society. A corollary of this is that poverty standards must also be adjusted over shorter periods of time. The “at risk of poverty” measure incorporates a clear and consistent approach to this issue.

While the head count (or head count ratio, the proportion of persons with incomes below a poverty line) is the most common and easily understood of the “at risk of poverty” measures, this measure does have distinct drawbacks. A transfer of income from a very poor person to one who is just below the poverty line may reduce the head count of poverty, but only at the expense of deepening the poverty of the poorest person. Head counts of poverty can be very sensitive to the precise location of the income poverty line. This is more likely when there are large clusters of people with very similar incomes – such as the elderly, depending solely on public pensions. In order to allow for this, we use, in addition to the head count ratio, two other measures:

- the poverty gap ratio, which takes account of the depth of poverty,
- the weighted poverty gap ratio, which gives greater weight to persons with the lowest incomes.

3.5 Conclusion

We explore the direct impact of changes in the tax treatment of pensions using the *SWITCH* tax-benefit model. The model simulates the tax liabilities and benefit entitlements of a nationally representative sample of households – the data are drawn from the CSO’s Survey on Income and Living Conditions (EU SILC) for 2005. A weighting scheme is used to adjust the data to represent the demographic situation in 2030 and 2050. All of the model results are based on the technical assumption of no change in behaviour. The fact that social welfare entitlements are incorporated in the model means that it is possible to analyse the direct impact of restrictions on income tax relief, coupled with an increase in social welfare pensions. These results could equally be interpreted in terms of changes in taxes helping to sustain existing levels of payment.

4. DISTRIBUTIONAL IMPLICATIONS OF LONG-RUN CHANGES IN PENSION COVERAGE

4.1 Introduction

In this chapter we examine how the trade-offs facing policy are influenced by:

- rising rates of participation in occupational and private pension schemes (commonly referred to as “pension coverage”) the coverage of occupational/private pensions);
- rising rates of qualification for the contributory State Pension

4.2 Rising Pension Coverage and “At Risk of Poverty” Measures for Pensioners

Occupational/private pension coverage among current pensioners is about 30 per cent, but stands at about 60 per cent for the over 30s.¹⁵ This difference reflects the fact that the rate of pension coverage has been rising over time. If this higher rate of coverage is sustained or increased towards the 70 per cent target set in the National Pensions Review,¹⁶ then future pensioner populations will be more likely to have an entitlement to a private or occupational pension than the current cohort of pensioners. What implications would this have for the “at risk of poverty” measure for future pensioners?

One approach to modelling the impact of a higher rate of pension coverage is to reweight the sample, giving greater weight to persons with a pension in payment. This is the approach implemented here. The estimated coverage rate based on SILC 2005 data is a little over 25 per cent - somewhat below the 30 per cent figure. We examine the implications of a rise in this coverage rate of 30 percentage points, to 55 per cent. We derive a weight which raises the proportion of pensions in payment for the over

¹⁵ Department of Social and Family Affairs (2007).

¹⁶ The National Pensions Policy Initiative (1996-1998) made recommendations for a fully developed pension system for Ireland. The National Pensions Review was carried out by the Pensions Board (at the request of the Minister for Social and Family Affairs) to examine pension coverage and associated issues and to assess the progress of pension provision since the implementation of the National Pensions Policy Initiatives recommendations between 2000 and 2003.

65 population by about 30 percentage points. Control totals for basic demographics (age distribution and number of households) are also imposed, based on the *MTR* projections to 2030 and 2050, summarised in Table 3.4. The procedure used to derive the new weights minimises changes from the initial weights.

It should be noted that this procedure arrives at a higher number of pensioners with private pensions (including those from public service employment) by attributing a higher weight to *pensioners currently with private pensions*. This implies that the characteristics of the “additional” pensioners are similar to those of existing pensioners with private provision. The results must be interpreted in this light. Differences between “new” and “existing” pensioners cannot be taken into account under this approach.¹⁷ Nevertheless, it provides a useful first estimate of the potential impact of increased pension coverage.

Table 4.1: Potential Impact of Increased Pension Coverage on the “At Risk of Poverty” Measure

	Head Count Ratio	Poverty Gap	Weighted Poverty Gap
Overall			
Baseline, 2005	20.0	4.47	1.96
Adjusted for higher rate (55%) of pensions in payment for those over 65 years	18.9	4.31	1.87
Aged 65 Years or Over			
Baseline, 2005	25.9	1.67	0.25
Adjusted for higher rate (55%) of pensions in payment for those over 65 years	17.2	1.09	0.16
Proportionate reduction in overall “at risk of poverty” indices	-6%	-4%	-5%
Proportionate reduction in “at risk of poverty” indices for those aged 65 years or over	-34%	-35%	-36%

Table 4.1 summarises the estimated impact of a substantial rise in pension coverage on the “at risk of poverty” measures. As noted in Chapter 3, we use a set of three measures to assess changes in the risk of poverty:

- (a) the familiar head count ratio, representing the proportion of persons falling below the income threshold of 60 per cent of median income;
- (b) the poverty gap ratio, which takes into account, for each individual falling below the threshold, how far below the threshold their income is;

¹⁷ For example, the shift from defined benefit to defined contribution schemes, typically with lower rates of contribution, would tend to reduce the average value of pensions in future.

- (c) the weighted poverty gap, which gives greater weight to the lowest incomes.

The results suggest that for the population aged over 65 years all three measures fall by just over one-third, with the head count ratio falling by 9 percentage points. Thus, the impact of increases in coverage of private pensions which has already happened can be expected to exert a significant downward influence on the “at risk of poverty” measures in the future. The impact of the change on the “at risk of poverty” measures for the overall population is more modest (proportionate falls of about 5 per cent) as the rise in pension incomes for those aged over 65 years tends to raise median income.

4.3 Impact of Increased Coverage of State Contributory Pension

Coverage and eligibility for the State Contributory Pension have also been rising, with widening of the PRSI net, increased labour market participation, particularly by women, and special provisions for homemakers. In seeking to understand the implications of these changes, we are able to adopt a different modelling approach, which takes account of the differences between those currently receiving State Contributory Pensions, and those who will become entitled to such pensions in the future. We can decompose the impact of an increase in coverage of the State Contributory Pension into two components:

- (a) First, increased coverage implies that the rate of payment for those moving from State Non-Contributory pensions would increase to the level of the State Contributory Pension.
- (b) Second, the State Contributory Pension is not means-tested. Thus, pensioners moving from non-contributory to contributory pension would see a further change in their circumstances, as there would be no reduction in payment associated with other incomes, such as occupational pensions.

This approach is similar to making the State Contributory Pension a universal payment, dependent only upon age. As such, it goes somewhat beyond the actual changes to date, and gives an upper bound to the impact of these actual changes.

We examine the impact of these two factors separately. Table 4.2 shows the potential distributive impact of an increase in the payment rate up to the level of the State Contributory Pension. Significant numbers of pensioners live as part of larger households. For this reason, we conduct this analysis at tax unit level, to give a clearer picture of the income distribution consequences of the policy change. Analysis of the “at risk of poverty” impact is, however, undertaken at household level, as this is the approach used in the measures of poverty and “at risk of poverty” by the National Anti-Poverty Strategy. Household level analysis also predominates in the academic literature on poverty measurement. The two approaches therefore provide complementary information on the income distribution and “at risk of poverty” consequences of policy changes.

Table 4.2: Potential Distributive impact of Increase in State Non-Contributory Pension Payment Rate to the Level of the State Contributory Pension (Tax Unit Level)

Decile	% Gain	Aggregate Net Gain €m p a	Share of Aggregate Net Gain
1	0.0	0.0	0.0
2	0.1	1.1	1.0
3	1.1	32.5	30.8
4	1.8	59.8	56.6
5	0.2	11.4	10.8
6	0.0	0.7	0.6
7	0.0	0.1	0.1
8	0.0	0.0	0.0
9	0.0	0.0	0.0
10	0.0	0.0	0.0
Total	0.2	105.6	100.0

The greatest proportionate gains are found not among the one-fifth of households with lowest incomes, but among the second from bottom ranked one-fifth of households. For this group – deciles 3 and 4 – disposable income increases by between 1 and 2 per cent. The estimate of the aggregate cost is relatively modest, at about €105 million. Close to 90 per cent of this amount goes to deciles 3 and 4, and almost none to the top half of the distribution.

Table 4.3: Potential Impact on “At Risk of Poverty” Measures of an Increase in Payment Rate for State Non-Contributory Pension to the Level of the State Contributory Pension

	Head Count	Poverty Gap	Weighted Poverty Gap
Overall			
2005 baseline	20.0	4.47	1.96
Non-contributory pensions increased to same level as contributory pensions	18.4	4.38	1.95
Elderly			
2005 baseline	25.9	1.67	0.25
Non-contributory pensions increased to same level as contributory pensions	12.8	0.89	0.17
Proportionate reduction in overall “at risk of poverty” indices	-8%	-2%	-1%
Proportionate reduction in “at risk of poverty” indices for those aged 65 or over	-50%	-47%	-32%

Table 4.3 shows estimates of the corresponding impact on the “at risk of poverty” measures, both for the overall population and for those aged 65 years or over. The results for the overall population show a small fall in the head count ratio, but the other indices (poverty gap ratio and weighted poverty gap ratio) are almost unchanged. The impact on measures of “at risk of poverty” is much greater for those aged over 65 years. There is a

sharp fall in the “at risk of poverty” measures, with both the head count and the poverty gap ratio falling by close to half, and the weighted poverty gap falling by about one-third.

On balance, it seems that this element of policy change – raising the rate of payment for non-contributory pensions to the level of the contributory pension – could lead to a significant fall in the “at risk of poverty” measures. While changes in economic circumstances have much reduced the room for manoeuvre in budgetary policy, it is worth noting that the cost of the change is modest compared to the size of budgetary welfare packages in recent years.

We now turn to the implications of the other aspect of a shift from State Non-Contributory Pension to State Contributory Pension, arising from greater eligibility for the State Contributory Pension. This is the fact that the Contributory Pension is not means-tested, whereas the non-contributory pension is means-tested. We analyse this by changing our modelling of the State Non-Contributory Pension to remove the means-test. Table 4.4 shows that the overall cost is estimated at about €360 million, and how this gain is distributed across tax units ranked from the poorest decile to the richest, based on income per adult equivalent. The greatest proportionate gains are in deciles 4 and 5, with gains of close to 2 per cent. However, about half of the aggregate gain goes to the upper half of the income distribution.

Table 4.4: Potential Distributive Impact of Abolition of Means-testing (to Approximate a Universal Entitlement to State Contributory Pension) Relative to a State Non-Contributory Pension Payment Rate at the Level of the State Contributory Pension, Retaining Means-testing

Decile	% Gain	Aggregate Net Gain	Share of Aggregate Net Gain
1	0.0	0.0	0.0
2	0.0	0.7	0.2
3	0.7	22.0	6.1
4	2.3	73.8	20.4
5	1.7	82.0	22.7
6	0.8	45.2	12.5
7	0.8	55.9	15.5
8	0.4	34.3	9.5
9	0.3	29.8	8.2
10	0.1	17.3	4.8
Total	0.6	360.9	100.0

Table 4.5 shows how the income gains from this policy affect the “at risk of poverty” measures. The results for the overall population show a small rise (1 percentage point) in the head count ratio, with a much greater increase (over 7 percentage points) in the head count ratio for people aged 65 years or over. The poverty gap and weighted poverty gap increase only slightly. What drives this increase in the head count ratio for older people? The key factor is that there is an increase in the median income, as we have seen that incomes in this region were boosted by around 2 per cent. This reinforces the point that head count of poverty risk can be highly volatile, particularly for a group such as the elderly where incomes tend to be

clustered around the levels of the State Pension. In these circumstances a small change in median income can result in a substantial change in the headcount measure. Because of this it is important to complement the headcount measure with measures which take account of how far households are from the relevant poverty line, such as the poverty gap index.

Table 4.5: Potential Impact on “At Risk of Poverty” Measures of Abolition of Means-testing for Pensioners (See Note to Table)

	Head Count	Poverty Gap	Weighted Poverty Gap
Overall population			
Non-contributory pensions increased to same level as contributory pensions	18.4	4.40	1.95
Means-testing of pensions abolished	19.5	4.48	1.99
Elderly			
Non-contributory pensions increased to same level as contributory pensions	12.8	0.89	0.17
Means-testing of pensions abolished	20.3	0.95	0.18
Proportionate increase in overall “at risk of poverty” indices	6%	2%	2%
Proportionate increase in “at risk of poverty” indices for those aged 65 years or over	59%	7%	6%

Note: Analysis is undertaken relative to a baseline where the payment rate for State Non-Contributory Pension is increased to same level as State Contributory Pension, and means-testing is retained.

Nevertheless, the main message is clear. A rise in the rate of non-contributory pensions to the same level as the contributory pensions could significantly reduce the “at risk of poverty” measures for older persons – in both head count and poverty gap terms. Elimination of means-testing would, however, tend to spread benefits further up the income distribution, resulting in a rise in median income and would not lead to a reduction in the “at risk of poverty” measure. Indeed, it may lead to a rise in the “at risk of poverty” measure because the change leads to a rise in median income.

As the key change under consideration is a shift from non-contributory to contributory pensions, via increased eligibility/coverage of the State Contributory Pension, both effects are knitted together. The overall impact on the “at risk of poverty” measures is summarised in Table 4.6 below. These results show very little change in the “at risk of poverty” measures for the overall population, but substantial reductions in these measures for the population aged 65 and over.

Table 4.6: Potential Impact on “At Risk of Poverty” Measures of Increased Coverage/Eligibility for State Contributory Pension

	Head Count	Poverty Gap	Weighted Poverty Gap
Overall population			
2005 baseline	20.0	4.47	1.96
Increased coverage of State Contributory Pension	19.5	4.48	1.99
Elderly			
2005 baseline	25.9	1.67	0.25
Increased coverage of State Contributory Pension	20.3	0.95	0.18
Proportionate reduction in overall “at risk of poverty” indices	-2.5%	0.2%	1.5%
Proportionate reduction in “at risk of poverty” indices for those aged 65 or over	-21.6%	-43.1%	-28.0%

4.4 Conclusion

Before analysing potential policy changes, we examine the potential impact of trends towards increasing coverage in occupational and private pensions, and in qualification rates for the Contributory State Pension. Occupational/private pension coverage among current pensioners is about 30 per cent, but stands at about 60 per cent for the over 30s.¹⁸ This difference reflects the fact that the rate of pension coverage has been rising over time. If this higher rate of coverage is sustained then future pensioner populations will be more likely to have an entitlement to a private or occupational pension than the current cohort of pensioners. What implications would this have for the “at risk of poverty” measure for future pensioners? We estimate that this factor could reduce the “at risk of poverty” measure by about one-third – both in terms of the familiar head count ratio, but also in terms of broader measures taking account of the depth of poverty. In a similar fashion, we analyse the impact of increased rates of qualification for the Contributory State Pension. This factor could lead to a reduction in the head count of poverty of about one-fifth, and would also help to reduce the depth of poverty.

¹⁸ Department of Social and Family Affairs (2007).

5. ALTERNATIVE TAX TREATMENTS OF PENSIONS

5.1 Introduction

We now turn to a key area of pension policy: the appropriate tax treatment of pensions. In Section 5.2 we discuss some general issues relating to the tax treatment of pensions. We compare the current treatment (based on the principles of an expenditure tax, with pension contributions and pension fund income exempt from tax, and pensions in payment subject to tax) with some alternatives. Section 5.3 turns to some of the “questions for consideration” regarding tax incentives raised by the Green Paper, specifically raising the following issues:

- (a) Can tax incentives be better targeted to encourage improved coverage in a more cost-effective way?
- (b) Should the over-riding principle be coverage or equity?
- (c) Should incentives be offered at the marginal, standard or a hybrid rate?

In this chapter, we do not include the impact of the recently imposed public service pension levy or Pension Related Deduction. The nature of this deduction, and its interpretation, are taken up in Chapter 6.

5.2 Tax Treatments of Pensions

Traditionally, the tax treatment of pensions is considered in a framework where there are three points at which pension-related incomes could be taxed:

- when contributions are made by those in employment or their employers;
- when investment income is earned (by the pension fund to which contributions are made); and
- when pensions are paid to those in retirement.

The current tax treatment of pensions is based on a broad principle that initial contributions are exempt from tax (E), as is the investment income generated by the fund, and that payments to those in retirement are taxed (T). This is often referred to as an EET treatment of pensions (exempt, exempt, taxed). Lump sums paid at retirement are currently an exception to this rule as they are not subject to tax. As Whitehouse (1999) states, this is

equivalent to the “expenditure tax” of the public finance literature,¹⁹ while the “comprehensive income tax” would be represented by a system characterised as TTE (taxed, taxed, exempt) or ETT (exempt, taxed, taxed).

However, the tax treatment of pensions needs to be seen against the broader background of the taxation of capital income. In a recent review of the base for direct taxation Banks and Diamond (2009) conclude that:

The traditional tax base debate has been a competition between taxing income and taxing consumption expenditures. We argue that a better question is how to tax capital income, given that earnings are subject to tax, a question allowing a wider set of answers (Banks and Diamond, 2009).

Given that there will continue to be some progressive taxation of earnings, Banks and Diamond argue that:

...a widely recognized result of the optimal tax literature – that capital income should not be taxed, in order that individuals’ choices regarding saving for future consumption are left undistorted relative to choices over immediate consumption – arises from considerations of individual behaviour and the nature of economic environments that are too restrictive when viewed in the context of both theoretical findings in richer models and the available empirical econometric evidence. Hence such a result should be considered not robust enough for applied policy purposes and there should be some role for including capital income as a component of the tax base. (Banks and Diamond, 2009).

Banks and Diamond cite three main factors leading to the conclusion that the optimal tax system contains some form of capital income taxation:

1. Evidence that those with the greatest earnings capacity are most willing and able to smooth consumption over their lifetime by saving;
2. Econometric evidence suggesting that individuals with differing earnings capacities have differences in the shape of earnings profiles and demographic needs over the life-time; and
3. Uncertainty about future earnings among young and middle-aged individuals, which is likely to differ across individuals with differing earnings capacity.

Some countries, notably those in Scandinavia, have moved towards a flat rate of tax on capital income, at a lower rate than taxes on labour income. Banks and Diamond, however, lean towards having some relationship between the marginal tax rates on labour income and those on capital income.

¹⁹ The TEE regime is sometimes referred to as a “prepaid expenditure tax” system. It is the treatment afforded to savings under the UK’s ISA (Individual Savings Account) scheme.

What implications do these considerations have for the appropriate tax treatment of pensions in Ireland? There is no immediate prescription implied, but there are two clear messages. First, arguments about a choice between EET and TEE or other “pure” systems are not likely to be productive. Instead, Banks and Diamond focus on the fact that the optimal tax system is likely to include some taxation of capital income. Second, they argue that such taxation should bear some relationship to the marginal tax rates on labour income. In this context, we turn to one possible departure from the current system which is designed to take account of these marginal tax rate differences – standardisation of relief on pension contributions.

5.3 Standard- Rating of Tax Relief on Pensions

The *Green Paper on Pensions* (DSFA, 2007) specifically raised the issue of whether tax relief on pension contributions should be granted at a single rate of tax for all taxpayers, and if so whether this rate should be the standard rate of tax, the top rate of tax, or some intermediate “hybrid” rate. Some initial work on standard-rating of tax relief was undertaken in Callan *et al.* (2007). A package combining standard-rating and an increase in the basic State Pensions was examined. Here we extend this work to provide further evidence relevant to the assessment of standard-rating as against alternatives such as a hybrid rate of tax, or the granting of relief at the top rate to all taxpayers, as well as the current system of relief at the individual’s marginal rate of tax.

In the interim we may note that the UK has moved somewhat in this direction, limiting the tax relief available to high earners in the 2009 Budget.²⁰ Tax relief is available at the marginal rate for those with an income up to £150,000. Above that level, relief will be tapered away and those earning over £180,000 will only be able to claim the relief at the standard (20 per cent) rate of tax. There are some substantial exceptions. Those earning over £150,000 they will not be affected if: their overall annual pension savings are less than £20,000, or, for those with contributions in excess of that amount, if they continue with their normal pension savings. Thus, for existing contributors, the main change is that it removes the tax advantages associated with increasing pension contributions above the normal, for those with very high incomes. The high income limit means that relatively few individuals will be affected. The standardisation option examined here would have broader effects, and a more coherent rationale than the UK’s recent changes.

Table 5.1 shows the potential impact of standardisation on aggregate revenue and its distribution across income classes. The revenue impact is of the “revenue foregone” type, with no allowance for changes in behaviour. On this basis, we estimate that in 2005 the potential increase in revenue would be about €1,100 million per annum. This is substantially below the earlier estimate of €1,500 million for three reasons:

1. The weighting scheme used in this analysis does not make any adjustment to take account of the distribution of gross income as per the Reports of the Revenue Commissioners. As a result,

²⁰ In 2009, Irish policy also moved to limit relief on superannuation contributions for high earners, by lowering the cap on employee contribution relief to €150,000.

there is significant under-representation of higher incomes. The trade-off between this approach and calibration of the risk of elderly poverty was discussed in Chapter 3.

2. The higher figure related to 2006, not 2005.
3. The data source for the higher figure is the Living in Ireland Survey for 2000, uprated to 2006, and for the lower figure is the EU SILC 2005.

Taking all three considerations into account, it seems likely that the true figure lies somewhere between the two estimates.

The distributional implications are very similar to earlier estimates. Standardisation of tax relief on pensions has little or no impact on the bottom half of the income distribution. Over 80 per cent of the net losses are concentrated in the top two deciles, which would experience losses of close to 3 or 3½ per cent of disposable income.

Table 5.1: Estimated Distributive Impact of Standardisation of Tax Relief on All Pension Contributions, 2005 (Tax Unit Level)

Decile	% Change in Income	Aggregate Gain/Loss €million p. a.	Share of Total Income Change %
Bottom	0.0	0.3	0
2	0.0	0.0	0
3	0.0	0.0	0
4	0.0	0.0	0
5	-0.1	-3.0	0
6	-0.5	-25.2	2
7	-0.7	-51.6	5
8	-1.5	-125.5	11
9	-2.7	-281.0	26
Top	-3.5	-616.0	56
All	-1.8	-1,101.9	100

How would these results be affected by changes in demographic structure? Tables 5.2 and 5.3 examine this issue, reweighting the analyses to arrive at the age structure of the population in 2030 and 2050 respectively. The first point to note is that the size of the potential revenue gain increases to around €1,500 million per annum under the 2030 demographic structure, falling back to €1,450 million when the age structure is adjusted to the projected 2050 situation. The distributional impact is very similar, irrespective of the age structure of the population. Again, over 80 per cent of the net losses in income are concentrated in the top two deciles, where income losses are between 2½ and 3½ per cent.

Table 5.2: Estimated Distributive Impact of Standardisation of Tax Relief on all Pension Contributions, 2030

Decile	% Change in Income	Aggregate Gain/Loss €million p. a.	Share of Total Income Change
1	0.0	0.3	0
2	0.0	0.0	0
3	0.0	0.0	0
4	0.0	0.0	0
5	-0.1	-3.4	0
6	-0.4	-30.5	2
7	-0.8	-72.3	5
8	-1.4	-166.5	11
9	-2.6	-383.3	26
10	-3.6	-842.9	56
Total	-1.8	-1,498.6	100

Table 5.3: Estimated Distributive Impact of Standardisation, 2050

Decile	% Change in Income	€million p. a.	Share of Total Income Change by Decile
1	0.0	0.3	0
2	0.0	0.0	0
3	0.0	0.0	0
4	0.0	0.0	0
5	0.0	-2.9	0
6	-0.3	-24.5	2
7	-0.7	-69.0	5
8	-1.4	-156.6	11
9	-2.6	-371.5	26
10	-3.5	-823.8	57
Total	-1.7	-1,448.1	100

Next we examine packages which use some of the potential revenue gain to raise the level of the State Pensions (both contributory and non-contributory). The packages are constructed as follows. First, we assume that the revenue available to finance the package is about two-thirds of the total potential revenue gain shown above. This is to allow for behavioural responses. Next we calculate the flat rate increase in State Pensions which can be financed by this revenue. Because the population aged 65 years or over rises sharply between 2005 and 2030, and again to 2050, the cost of each €1 on the State Pension rate increases substantially. As a result, the pension increases which can be financed in this way are estimated at

- €38 in 2005
- €25 in 2030
- €15 in 2050

STANDARD-RATING AND INCREASED PENSION RATES: DISTRIBUTIONAL IMPACT

We now examine estimates of the distributive impact of these packages and follow this with an analysis of the impact on “at risk of poverty” measures.

Table 5.4: Estimated Distributive Impact of Standardisation and €38 Increase in State Pension Rates, 2005 (Household Basis)

Decile	% Change in Income	€million p. a.	Share of Net Gains/Losses of Deciles Gaining/Losing %
Bottom	0.6	10.8	2
2	6.4	160.1	27
3	10.0	264.8	45
4	3.3	122.8	21
5	0.5	26.4	5
6	-0.3	-18.7	2
7	-0.8	-58.1	6
8	-1.7	-137.6	14
9	-3.1	-299.9	32
Top	-3.1	-435.6	46
All	-0.6	-365.0	

Results for 2005 indicate that gains are concentrated in deciles 2, 3 and 4, with the greatest gains for the third decile. Net losses are heavily concentrated (almost 80 per cent) in the top two deciles.

Table 5.5: Estimated Distributive Impact of Standardisation and €25 Increase in State Pension Rates, Age Structure as Projected for 2030 (Household Basis)

Decile	% Change in Income	€million p. a.	Share of Net Gains/Losses of Deciles Gaining/Losing %
Bottom	0.7	20.2	3
2	5.8	197.1	25
3	8.2	286.7	36
4	4.5	231.8	29
5	0.8	51.9	7
6	0.0	1.4	0
7	-0.8	-81.3	6
8	-1.4	-168.5	13
9	-2.7	-391.0	30
Top	-3.1	-653.6	50
All	-0.6	-505.3	

Distributional impacts based on an age structure as projected for 2030 show quite a similar pattern. Proportionate gains are between 5 and 8 per cent for deciles 2, 3 and 4, which account for most of the net gains. The top two deciles again account for about 80 per cent of the losses.

Table 5.6: Estimated Distributive Impact of Standardisation and €15 Increase in State Pension Rates, Age Structure as Projected for 2050 (Household Basis)

Decile	% Change in Income	€million p. a.	Share of Net Gains/Losses of Deciles Gaining/Losing %
Bottom	0.9	34.1	4
2	4.5	167.2	22
3	5.7	215.9	28
4	4.5	219.0	29
5	1.6	103.9	14
6	0.2	18.5	2
7	-0.4	-45.9	4
8	-1.1	-146.3	11
9	-2.3	-347.8	27
Top	-3.1	-736.0	58
All	-0.5	-517.4	

The distributional impact based on an age structure for 2050 (as projected by the *Medium-Term Review* (2008)) is again quite similar. Gains are concentrated in deciles 2, 3 and 4 and losses in the top two deciles. One difference is, however, that with the smaller increase in the State Pension, the proportionate gain for the third decile falls to under 6 per cent, as compared with 10 per cent in 2005 and just over 8 per cent in 2030.

STANDARD-RATING AND INCREASED PENSION RATES: IMPACT ON THE “AT RISK OF POVERTY” MEASURE

Next we turn to the impact of standard-rating tax reliefs and raising the State Pension on “at risk of poverty” measures. Table 5.7 shows the results of analysis for the 2005 package, an increase of €38 per week in the State Pension, financed by standard-rating the relief on pension contributions. The head count ratio of “at risk of poverty” falls by about 90 per cent, while the poverty gap ratio falls by about 80 per cent. The head count ratio is estimated to fall from 17 per cent to about 3 per cent. On a static basis, without changes in behaviour, the proportion of the population deemed “at risk of poverty” would fall to very low levels.

How are these results affected by the ageing of the population? Tables 5.8 and 5.9 show the corresponding results when adjusted for the age structures as projected for 2030 and 2050. Again, there are substantial impacts on the “at risk of poverty measures”. The head count measure is reduced by about 80 per cent in each case. The poverty gap is reduced by 67 per cent under the 2030 demographic structure, and by 58 per cent under the 2050 demographic structure.

Table 5.7: Estimated Impact on “At Risk of Poverty” Measures of Standardisation and €38 Increase in State Pension Rates, 2005 (Household Basis)

	Head Count Ratio	Poverty Gap	Weighted Poverty Gap
Overall			
Baseline, 2005	20.0	4.47	1.96
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €38	17.1	4.29	1.94
Aged 65 years or over			
Baseline, 2005	25.9	1.67	0.25
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €38	2.8	0.36	0.10
Reduction in overall risk of poverty	-14%	-4%	-1%
Reduction in risk of poverty for those aged 65 or over	-89%	-78%	-60%

Table 5.8: Estimated Impact on “At Risk of Poverty” Measures of Standardisation and €25 Increase in State Pension Rates, 2030 (Household Basis)

	Head Count Ratio	Poverty Gap	Weighted Poverty Gap
All			
Baseline, 2005 policy with 2030 age structure	18.5	3.80	1.63
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €25	14.9	3.59	1.60
Aged 65 years or over			
Baseline, 2005 policy with 2030 age structure	21.3	1.20	0.20
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €25	3.4	0.40	0.11
Reduction in overall risk of poverty	-19%	-6%	-2%
Reduction in risk of poverty for those aged 65 years or over	-84%	-67%	-45%

Table 5.9: Estimated Impact on “At Risk of Poverty” Measures of Standardisation and €15 Increase in State Pension Rates, 2050 (Household Basis)

	Head Count Ratio	Poverty Gap	Weighted Poverty Gap	Median Income
All				
Baseline, 2005 policy with 2050 age structure	18.5	3.80	1.63	337.13
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €15	15.2	3.60	1.60	334.89
Aged 65 years or over				
Baseline, 2005 policy with 2050 age structure	21.3	1.20	0.20	337.13
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €15	4.7	0.51	0.13	334.89
Reduction in overall risk of poverty	-18%	-5%	-2%	
Reduction in risk of poverty for those aged 65 years or over	-78%	-58%	-35%	

It should be noted, however, that there has been a significant reduction in the “at risk of poverty” measures for older people as between 2005 and 2007, according to the EU SILC. (Latest results at time of writing are for 2007.) Furthermore, special increases in State Pension rates between 2006 and 2008 could be expected to have led to further reduction in the risk of poverty. In order to assess how this might affect the impact of the standard-rating plus pension increase package, we have estimated the impact of the change using a database and policy parameters updated to 2008 levels.

A key point here is that the baseline estimate of the “at risk of poverty” headcount ratio is 9 per cent. SILC indicates a fall in this measure from 20.1 per cent in 2005 to 13.6 per cent in 2006 – taking the rate from above the overall risk to significantly below the overall risk. This estimate for 2008 should not be taken as precisely comparable to these figures, but suggests that special increases in pension payment rates may have reduced this risk further. The standard-rating and pension increase package still eliminates high proportions of the “at risk of poverty” head count. Again, this also extends to the poverty gap, which takes account of the depth of poverty, and the weighted poverty gap, which gives greatest weight to those with lowest incomes. It should be noted, however, that in this case (as in the CSO SILC results for 2006) the “at risk of poverty” rate for the elderly is already below the rate for the whole population.

Table 5.10: Estimated Impact on “At Risk of Poverty” Measures of Standardisation and €38 Increase in State Pension Rates, 2008 (Household Basis)

	Head Count Ratio	Poverty Gap	Weighted Poverty Gap
All			
Baseline, 2008	15.3	3.56	1.66
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €38	14.2	3.45	1.63
Aged 65 years or over			
Baseline, 2008	9.0	0.49	0.08
Tax relief on all pension contributions at the standard rate, and State Pensions increased by €38	1.4	0.15	0.04
Reduction in overall risk of poverty	-7%	-3%	-2%
Reduction in risk of poverty for those aged 65 years or over	-85%	-69%	-50%

5.4 Tax Relief on Pensions at Single, Hybrid Rate

What if the tax relief on pensions were standardised at a different rate – either the top rate of tax, or some hybrid rate falling between the standard rate and the top rate? We examine each of these options in turn. We restrict our attention to the 2005 situation, as findings based on the age structures for other years are rather similar.

Table 5.11: Estimated Distributive Impact of Tax Relief at Top Tax Rate (Tax Unit Basis)

Decile	% Gain	Aggregate Net Gain/Loss	Share of Aggregate Gain
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.2	0.1
4	0.0	1.1	0.5
5	0.2	11.4	5.5
6	0.7	38.1	18.4
7	0.8	58.6	28.3
8	0.8	66.7	32.2
9	0.3	28.6	13.8
10	0.0	2.9	1.4
Total	0.3	207.2	100.0

Table 5.11 shows the cost and distributive impact of standardising tax relief at the top rate of tax for 2005. The overall cost, again a static estimate, is close to €210 million. However, one of the aims of such a policy would be to encourage pension savings by those not already covered, and increased contributions from those (standard-rate) taxpayers whose contributions are currently low. To the extent that such increases in contributions are forthcoming, the cost would rise, and there would be

further gains for standard rate taxpayers. On a static basis, the greatest proportionate gains are for deciles 6, 7 and 8, at around $\frac{3}{4}$ of 1 per cent. These deciles account for almost 80 per cent of the aggregate gain, and over 90 per cent when the 9th decile is included.

Table 5.12: Estimated Distributive Impact of Tax Relief at Hybrid 30 Per Cent Rate (Tax Unit Basis)

Decile	% Gain	Aggregate Net Gain/Loss	Gross Loss	Gross Gain	Share of Gross Loss	Share of Gross Gain
1	0.1	0.1	0.0	0.1	0.0	0.1
2	0.0	-0.1	0.1	0.0	0.0	0.0
3	0.0	0.1	0.0	0.1	0.0	0.1
4	0.0	0.5	0.0	0.5	0.0	0.6
5	0.1	4.3	0.8	5.0	0.1	6.1
6	0.1	5.5	12.7	18.2	2.2	22.2
7	0.0	-0.6	25.7	25.1	4.4	30.8
8	-0.4	-37.1	60.8	23.7	10.4	29.1
9	-1.3	-140.0	147.6	7.6	25.3	9.4
10	-1.9	-334.0	335.3	1.3	57.5	1.6
Total	-0.8	-501.3	583.0	81.6	100.0	100.0

Table 5.12 shows the estimated impact effect of standardising tax relief on pension contributions at 30 per cent, a “hybrid” rate. This implies gains for standard-rate taxpayers, and losses for top rate taxpayers. Our estimates suggest that, on a static basis, there would be a net gain in revenue of about €500 million per annum. About 80 per cent of the total gain would be concentrated in deciles 6 to 8, but there are also significant losses in these deciles, outweighing the gains in deciles 7 and 8. About 80 per cent of the total losses would be in the top 2 deciles, where incomes fall by 1 to 2 per cent. A key question is how the incipient revenue gain would be allocated.

Table 5.13: Distributive Impact of Standardisation at Hybrid 30 Per Cent Tax Rate Versus Standardisation at Standard Rate of Tax

Decile	% Gain	Aggregate Net Gain	Share of Aggregate Net Gain
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.1	0.0
4	0.0	0.5	0.1
5	0.2	8.1	1.3
6	0.6	31.7	5.3
7	0.8	52.4	8.7
8	1.2	97.8	16.3
9	1.4	140.9	23.4
10	1.6	269.4	44.8
Total	1.0	600.9	100.0

An alternative perspective is provided by Table 5.13, looking at the impact of moving from standardisation at the standard rate of tax to standardisation at a hybrid, 30 per cent rate. When compared with standardisation of reliefs at the standard rate, we see that a hybrid rate of

30 per cent leads to more than two-thirds of the total benefit flowing to the top two deciles. There are little or no gains for the bottom half of the income distribution, and the proportionate gain for the top two deciles is about 1½ per cent. It is true that the incentive to join a pension scheme is increased, but the evidence reviewed in Chapter 2 suggests that a greater increase in coverage of pensions may be obtained at lesser cost, and without the spillover to high income earners, through schemes which address the behavioural issues involved.

5.5 Conclusion

Debate about the appropriate tax base has, in the past, often been characterised as a contest between an income base and an expenditure base. Banks and Diamond's (2009) recent major review of the base for direct taxation comes to the conclusion that a more productive question is how to tax capital income, given that earnings are subject to tax. They conclude that the optimal tax system contains some form of taxation of capital income.²¹

In this context we examined some possible changes to the current tax treatment of pensions, which can be characterised as following expenditure tax lines, while most direct taxes operate using income as a base. One alternative is that relief on contributions could be restricted to the standard rate of tax. This would imply a reduction in income tax relief for top rate taxpayers, but no change for those paying the standard rate. Our main findings include the following:

- Standardisation of relief on all pension contributions (employee, employer and implicit government contributions) could raise revenue of over €1,000 million per annum.
- More than four-fifths of the revenue raised would come from the richest one-fifth of tax units.
- Revenue raised could be applied to sustaining State Pension levels as demographic pressures on the financing of public pensions intensify.
- Relative to the current situation, standardising relief at a hybrid, 30 per cent rate, as recommended by the Commission on Taxation, would lead to losses for top rate taxpayers, and gains for standard rate taxpayers.
- Relative to a relief standardised at the standard rate of income tax, allowing relief at the hybrid, 30 per cent rate recommended by the Commission on Taxation would lead to gains heavily concentrated (more than two-thirds) on the top one-fifth of tax units.

In the light of these findings, we return to the key questions posed by the Green Paper:

- Can tax incentives be better targeted to encourage improved coverage in a cost-effective way?

²¹Banks and Diamond argue that the finding in earlier optimal tax research that capital income should not be taxed arose from models which failed to capture important features of individual behaviour and the economic environment, and that richer models and empirical results suggest that capital taxation is part of the optimal mix.

- Should the overriding principle be coverage or equity?
- Should incentives be offered at the marginal, standard or a hybrid rate?

What does the evidence gathered and reviewed in this report say about these interlinked questions? Our reading of the evidence is that tax incentives can be better targeted, by allowing relief at the standard rate of tax or at a hybrid rate close to that rate. This is because, as discussed in Chapter 2, UK and US studies indicate there is significant deadweight associated with tax incentives for pensions, particularly among those in higher income groups. In terms of the coverage versus equity trade-off, resources raised by standardisation could contribute towards the financing of the State Pensions, which will come under pressure from population ageing. Furthermore, we think that a key feature is that the coverage versus equity trade-off can be improved by extending the range of policy instruments beyond tax incentives, drawing on behavioural economics to design schemes which will encourage enrolment into pension plans.²² Such plans could include not only privately managed schemes but also new publicly managed defined contribution schemes, to take advantage of low-cost asset management by NTMA or NPRF, as recommended by McHale (2005), the Commission on Taxation (2009) and by Lane (2009).

²² Again, these are discussed in more detail in Chapter 2.

6. THE PUBLIC SERVICE PENSION LEVY (2009)

6.1 Introduction

A “pension related deduction” affecting public service employees was introduced with effect from March 2009. It is commonly known as the public service pension levy. We will use terms pension-related deduction (PRD) and public service pension levy (PSPL) interchangeably, reflecting what are, respectively, the official and the most commonly used names for the deduction. Persons covered by the deduction are those defined as being a “public servant”. A public servant is defined as:

- a person who is employed by, or who holds any office or other position in, a public service body,
- a member of either House of the Oireachtas or of a local authority,
- a member of the European Parliament for a constituency in the State, or
- the holder of a qualifying office.

The Act defines a “public service body” as
...the Civil Service, the Garda Síochána, the Permanent Defence Force, local authorities, the Health Service Executive, the Central Bank and Financial Services Authority of Ireland, vocational educational committees, primary and secondary schools, third-level institutions, and the non-commercial semi-state bodies where a public service pension scheme exists or may be made.

Commercial state-sponsored bodies are excluded from the ambit of the levy.

The legislation also states that for the Pension-Related Deduction to apply, a public servant must:

- be a member of a public service pension scheme *or*,
- be entitled to a benefit under such a scheme *or*,
- receive a payment in lieu of membership in such a scheme.

A public servant who is not a member of a public service pension scheme, as defined in the legislation, or entitled to a benefit under a scheme or in receipt of a payment in lieu of membership of such a scheme would not be subject to the deduction. The Department’s website states that *It is not anticipated that there will be many public servants falling into this category and the parent Department should be consulted if there is a doubt.*

The levy is calculated on all remuneration including overtime, ‘acting up’ allowances (paid if a person of a lower grade carries out the duties of a higher grade staff member) and benefit-in-kind. As the levy is being treated as a pension contribution, tax relief is provided at the marginal rate but the legislation provides that the levy will not affect the overall threshold levels for tax relief on pension contributions.

The rates of the deduction in the initial 2009 budget were:

- 3 per cent on the first €15,000 of income.
- 6 per cent on the next €5,000.
- 10 per cent on earnings in excess of €20,000.

The supplementary budget (April, 2009) amended these rates to reduce the impact of the PSPL on lower paid public servants making the first €15,000 of earnings exempt from the levy. The rates now stand at:

- 5 per cent on earnings between €15,000 and €20,000.
- 10 per cent on earnings between €20,000 and €60,000.
- 10.5 per cent on earnings in excess of €60,000.

6.2 Interpreting the “Pension Related Deduction”

The Public Service Pension Levy could be characterised in terms of its stated intentions (as, for example, in the preamble to the act or the debates surrounding its introduction) or, perhaps more usefully, in terms of its key characteristics. These include elements of a pension contribution, a wage cut, and a tax. We consider each of these in turn, but first it is useful to state some key features of the PRD which must be taken into account in its interpretation, and in particular, how it relates to a pay cut.

1. The PRD has no impact on the incomes of current recipients of public service pensions. By contrast a pay cut would lead to a reduction in pensioner incomes if the “pay parity” provisions were applied to reductions as well as to increases in current public service pay.
2. The PRD reduces the take-home pay of current public service employees falling within its scope – so too would a pay cut. The pattern of reductions is considered in Section 6.3 below.
3. The PRD does *not* reduce the future pension incomes of current public service employees – their pension entitlements are calculated with respect to their gross pensionable pay, which is not affected by the PRD. A pay cut would reduce the future incomes of public service pensioners. A pay cut would reduce both current and future pension income; but the PRD reduces current take-home pay but not future pay – increasing the incentive to retire early, even before the special measures also announced with this intention.

Should the Pension Related Deduction (PRD) be thought of as a pension contribution? Some of the points made in the preamble to the Act introducing this measure suggest such an interpretation, notably the remarks that ...*the value of public service pensions is significantly and markedly more*

favourable than those generally available in other employment. But when considering the deduction as it actually operates, there are conflicting considerations on this point. On the one hand, the PRD is treated as a pension contribution from the point of view of income tax and PRSI – the pension related deduction is excluded from income for tax/PRSI purposes as the same way as employee contributions to pension schemes or to PRSAs. On the other hand, it is not counted as a contribution in terms of the limits (as a proportion of income) on employee contributions to superannuation schemes. Furthermore, and perhaps most tellingly, the PRD payments are pooled with general tax revenues, and the payments of pensions are financed on a pay-as-you-go basis. Thus, the link between the PRD and pension benefits is very weak. However, this might also be said of employee pension contributions within the public service generally. Under the current public service pension “model scheme”,²³ employees make contributions of 1½ per cent of gross reckonable pay, and 3½ per cent of net reckonable pay (i.e., gross pay less twice the payment rate for the contributory State Pension); a further contribution of 1½ per cent is also payable as part of the spouse’s and children’s pension scheme.²⁴ Staff employed after 1995 pay full PRSI and qualify for the State Contributory Pension, but their occupational pension is reduced by a formula linked to the individual rate of State Contributory Pension.

The “integration” provision means that those on low pay, or working part-time, and covered by the current public service pension scheme, may find little net benefit from their contributions.²⁵ Initially, for the period 1995-2004, this is because the size of the pension to which they may become entitled is no larger, or not much larger, than the social welfare pension for which they qualify – which, in an integrated scheme, is set against their entitlement to an occupational pension.²⁶ From 2004 onwards the scheme was changed to provide somewhat better terms for those on low pay, but the issue still remains and gains renewed relevance with the introduction of the Pension-Related Deduction.

The Pension-Related Deduction also has some characteristics of a tax policy. The aims of the PRD include raising revenue to finance government expenditure. The preamble states that as a consequence of the economic decline, *...a serious deterioration in the revenues of the State has occurred and there are significant and increasing Exchequer commitments in respect of public service pensions.* The nominal rate schedule of the PRD is progressive, in an attempt to reflect ability to pay considerations – another key feature of taxes. As we

²³ For those whose employment began prior to 1 April 1995, the main pension scheme is non-contributory, though a contribution of 1½ per cent for the spouse’s and children’s scheme is required.

²⁴ Those employed before 1995 faced, and continue to face, a different regime. The main pension scheme is non-contributory, the only employee contribution being for Spouse’s and Children (1½ per cent). Also pre-1995 civil servants paid a lower, modified rate of PRSI which did not qualify them for the State Contributory Pension. After 1995, full PRSI was payable, and salary scales were increased to maintain incomes at the pre-1995 level.

²⁵ There can also be issues arising from differential benefits for contributions where staff are on full versus modified PRSI rates.

²⁶ A further consideration is that liability to PRD is the same irrespective of whether an individual public servant is paying full or modified PRSI. This contrasts with pre-existing rates of employee contribution which are differentiated on the basis of PRSI status.

shall see, the effective rate schedule, when account is taken of the adjustments to income tax is somewhat more complex.

While the public sector pension levy has aspects of both pension contributions and a tax, it can perhaps best be interpreted as a means of achieving a reduction in Exchequer pay costs by means other than a simple pay cut. The preamble to the Act notes that:

...it is necessary to cut current Exchequer spending substantially to demonstrate to the international financial markets that public expenditure is being significantly controlled so as to ensure continued access to international funding, and to protect the State's credit rating and reverse the erosion of the State's international competitiveness...

A report of the EU Commission (EU Commission Directorate General for Economic and Financial Affairs, 2009) states that:

The national authorities regard the so-called 'pension levy' on wages paid by public service bodies as an expenditure-reducing measure, as effectively it is a pay cut for public servants without changing their pension entitlements.

Treated as a pay cut, a key feature is that it is not a flat percentage across the board, but is structured to place a higher proportionate burden on those with higher incomes. It is certainly true that this is a legitimate goal of public policy; it is less clear whether this is a goal best tackled through an instrument such as a public sector pension levy. The general goal of support for low incomes, or limiting equality of income, is typically assigned to the tax and welfare systems. Market forces can then be allowed to determine wages, in order to ensure the efficient operation of the labour market. Of course, the market for some occupations is strongly influenced or determined by the public sector. It could be argued that this may lead to public sector premia which are out of line with productivity related characteristics. Could the progressive structure of the PRD be helping to offset inappropriate public sector premia? Kelly *et al.* (2009) provide recent evidence on the pattern of public sector pay premia. Their analysis adjusting for factors such as age and educational qualifications which are known to influence wages, finds that public sector premia are higher for those at low wage levels, and small or negligible for those on high wage levels. This would suggest that, from a labour market point of view, reductions targeted specifically at the top would not be warranted.

6.3 Impact of the “Pension- Related Deduction”

We provide two perspectives on the impact of the Pension-Related Deduction.

- First, we consider how the PRD, as implemented in the Supplementary Budget of April 2009, affects the net incomes of a one-earner married couple at different income levels. We compare this with the alternative of a flat-rate levy, and of a wage cut, to show the different distributive patterns which would arise from these alternatives.
- Second, we move beyond specific examples to look at the overall impact of the Pension-Related Deduction on the income distribution, using *SWITCH*, the ESRI tax-benefit model.

Figure 6.1: Impact of Pension-Related Deduction on Net Income by Level of Gross Income

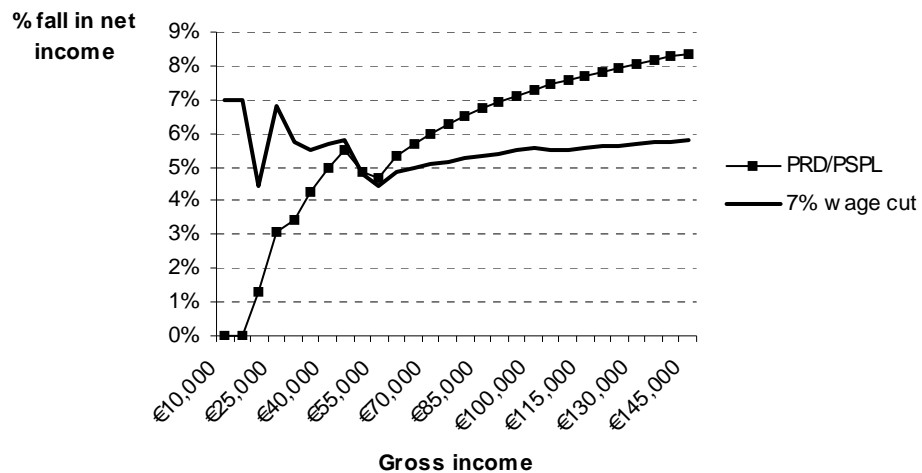


Figure 6.1 compares the proportionate reductions in net income arising from a 7 per cent cut in gross wages and the Pension-Related Deduction as amended by the Supplementary Budget. Looking first at the wage cut, we see that at low incomes, on which no tax is paid, this translates into a 7 per cent fall in net incomes. For those paying some tax, the reduction can be as low as 4 per cent,²⁷ rising to around 6 per cent for those on top incomes. In large measure this pattern arises from the progressive nature of the income tax system. Under a progressive tax system, the average tax rate rises with income. When income falls, the average tax rate therefore falls, attenuating the fall in net income. But this does not apply to those who are outside the tax net, for whom a fall in gross income translates into a similar proportionate fall in net income.

The pattern from the Pension-Related Deduction, on the other hand, is strongly progressive. There is no fall in income for those on low incomes (up to €15,000 per annum) and the proportionate income loss rises strongly with income to approach 9 per cent for those on very high incomes. The pattern is not entirely smooth, however, with a dip in the proportionate income loss in a region close to €50,000 per annum. This arises, as Hughes and Stewart (2009) point out, because of the kink arising when relief on PRD at the top rate of tax begins.²⁸

How did the levy/pension related deduction actually introduced affect real households? To answer this question we turn to *SWITCH*, the ESRI tax-benefit model: this allows us to explore how many families in a nationally representative sample are actually affected in different ways. The rules of the new levy have been incorporated, and we examine the impact of actual 2009 policy, with this Pension-Related Deduction, against a

²⁷ The reduction of the impact of the PRD at an income of about €20,000 arises from the existence of a step change in PRSI liability at that point; the PRD reduces the income liable for PRSI to below the relevant threshold, and therefore, generates an elimination of PRSI liability which acts to offset the impact of PRD on net income.

²⁸ The overall pattern in our analysis, based on the PRD as it applies from May 2009, is quite different from the initially introduced scheme as analysed by Hughes and Stewart.

baseline of actual 2009 policy *without the levy*. Our estimates suggest that, in a full year, the Pension-Related Deduction (as modified in the Supplementary Budget of April 2009) would in aggregate come to some €1,300 million in a full year. However, the fact that the deduction would be allowable against income tax, PRSI and other levies means that the net impact on revenue is likely to be substantially lower. Marginal tax rates facing standard rate and top rate taxpayers are about 30 per cent and 50 per cent respectively. An average tax rate of 40 per cent on the top slice of income would imply a net revenue gain of around €780 million.

Table 6.1: Distributive Impact of Pension-Related Deduction Across Tax Units

Quintile	Numbers Losing (000s)	% Gain/Loss	% Loss of Those Who Lose
Lowest	Too Few	Too Few	Too Few
2 nd	38	-0.3	-3.0
3 rd	57	-0.4	-3.0
4 th	132	-1.0	-3.5
Top	156	-1.3	-4.4
Total	382	-0.8	-3.8

Table 6.1 shows how the associated losses in disposable income vary across the income distribution. Very few families (too few to allow for an accurate statistical picture) are affected in the bottom income quintile. For those who are affected by the levy, the proportionate loss in income is between 3 and 3½ per cent for quintiles 2 to 4. Higher losses, about 4½ per cent, are recorded by those in the top quintile. Thus, the pattern within those affected by the levy is somewhat progressive. What about the impact on the overall income distribution? Close to two-thirds of the families affected are in the top three deciles of income adjusted for family size and composition; and about three-quarters are in the top two quintiles. As a result, the impact is broadly progressive across the overall income distribution, with average losses negligible for the poorest quintile per cent of families, and the remainder of the bottom half of the income distribution seeing losses of 0.3 per cent. Percentage losses rise to 1 per cent or more for the top two quintiles.

6.4 Conclusion

The pension-related deduction was introduced in response to a crisis in the public finances. Should it now be regarded as a temporary measure, to be reversed or revised? Or should it be seen as a new instrument of policy for the longer term, giving government new leverage to attain goals with respect to public finance outcomes, public-private sector wage differentials and/or income distribution? The analysis above suggests some caution is appropriate in thinking about a future role for the pension-related deduction.

Perhaps the strongest rationale for the pension-related deduction is that it serves as a mechanism for reducing net public sector spending, while avoiding the political economy difficulties of reducing wage rates explicitly. However, there are serious disadvantages associated with achieving the cost reduction in this fashion, which involves concentrating the burden of adjustment on those currently in employment, while they are in employment. An explicit wage rate reduction would also reduce the

incomes of current *and future* pensioners. The pension-related deduction does not do this. In this way, it increases the replacement rates for public sector workers facing retirement decisions – tending to reduce labour supply, in a similar way to an income tax increase. Moreover, the progressive structure of the levy may damage labour market efficiency in the public sector; broader tax/welfare measures to achieve distributional and anti-poverty goals may be more appropriate.

What are the implications of the Pension-Related Deduction for policy options involving standardisation of the tax relief on superannuation contributions? This depends very much on the interpretation of the PRD. If it is seen as a substitute for a wage cut, then the issue of the appropriate treatment for superannuation contributions (including the implicit government contribution for its employees) remains very much the same as before, and the analysis in Chapter 5 is valid. If, on the other hand, the PRD is thought of as an alternative to standardisation for the public sector, this would rule out the imposition of standardisation on top of the PRD. In our view, as explained above, the PRD is best thought of as an imperfect substitute for a wage cut, with the added factor of redistribution within the current set of public service employees. Given this, it seems that option of standardisation of tax relief on all pension contributions (employer and employee, explicit and implicit) pension relief remains a valid one to consider for both public and private sectors.

7. CONCLUSION

The context for analysis of pension issues has changed in recent years with the rise in the State Pension and a sharp fall in the “at risk of poverty” rate for older persons. The context will continue to change, as coverage rates both for private and State Pensions will be higher for cohorts retiring now and in the future than for those currently retired. Our analysis finds that increased coverage for both State and private pensions will tend to lead to further declines in the “at risk of poverty” rate for older persons. Taking these findings together, it could be argued that the challenge for the future is to maintain the State Pensions at a level similar to their current value in relation to earnings; and to improve supplementary pension coverage, particularly in the low and low-to-middle income regions where coverage is currently lowest.

- In this context, the Green Paper poses three inter-related questions:
- Can tax incentives be better targeted to encourage improved coverage in a cost-effective way?
- Should the overriding principle be coverage or equity?
- Should incentives be offered at the marginal, standard or a hybrid rate?

Tax incentives can be made more cost-effective if the cost of the incentives can be reduced with limited impact on the coverage. Evidence from the US and the UK suggests that there is substantial deadweight associated with tax-based pension incentives, particularly for those on high incomes. If similar patterns obtain in Ireland, then restrictions on tax relief for top rate taxpayers could allow for resources to be reallocated in a more cost-effective manner.

Two broad approaches could then be taken in respect of the coverage/equity issue and the choice of standard or hybrid rate for tax relief on pension contributions. The first would be to restrict relief to the standard rate, and use methods other than financial incentives to boost pension coverage among low-and middle-income earners. It is notable that the UK Pensions Commission (2005) concluded that there are *...inherent behavioural barriers to people making rational long-term savings decisions without encouragement...* and that its analysis emphasised the role of decision-making costs. It recommended what the Green Paper terms a “soft mandatory” approach which would require individuals to opt out rather than opt in to

pension coverage.²⁹ In this case some of the resources arising from the restriction on tax relief could help to support the financing of the State Pension. The second approach could also use such behavioural approaches to induce higher pension coverage, but would also provide a higher level relief, based on tax relief at the hybrid rate, between the standard and top rates of tax. This would reduce or eliminate the amount of support provided for the State Pension.

Efficient use of public resources is a key concern at all times, and in current circumstances becomes even more urgent. In this context, it is difficult to justify a tax-based incentive for pensions which mainly benefits those at the top of the income distribution. In our view, the reform of the system is best undertaken by a combination of tax relief on pension contributions with the standard rate, sustaining the State Pension, and specific schemes based on a behavioural approach to increase pension coverage among low and middle-income earners.

²⁹ Pension plans under the “soft mandatory” approach could include not only approved privately managed schemes but also new publicly managed defined contribution schemes, to take advantage of low-cost asset management by NTMA or NPRF, as recommended by McHale (2005), the Commission on Taxation (2009) and by Lane (2009).

BIBLIOGRAPHY

- ADEMA, W. and M. LADAIQUE, 2005. "Net Social Expenditure, 2005 Edition: More Comprehensive Measures of Social Support", OECD Social, Employment and Migration Working Papers No. 29.
- ANTON, J-I., 2007. "Distributional Implications of Tax Relief on Voluntary Private Pensions in Spain", *Fiscal Studies*, Vol. 28, No. 2, pp.171-203.
- ATTANASIO, O. and S. ROHWEDDER, 2003. "Pension Wealth and Household Saving: Evidence from Pension Reforms in the UK", *American Economic Review*, Vol. 93, pp. 1499-1521.
- ATTANASIO, O., J. BANKS and M. WAKEFIELD, 2004. "Effectiveness of Tax Incentives to Boost (Retirement) Saving: Theoretical Motivation and Empirical Evidence", *OECD Economic Studies*, No. 39, 2004/2.
- BEEETSMA, R. and A. LARS BOVENBERG, 2007. "Pension Systems, Intergenerational Risk Sharing and Inflation", CEPR Discussion Paper No. 6089, online at www.cepr.org/pubs/dps/DP6089.asp
- BANKS, J. and P. DIAMOND, 2009. "The Base for Direct Taxation" in Institute for Fiscal Studies and J. Mirrlees (eds.), *Tax by Design*, Oxford: Oxford University Press.
- BANKS, J. and S. SMITH, 2006, "Retirement in the UK", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 40-56.
- BARR, N., 2006, "Pensions: Overview of the Issues", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 1-14.
- BARR, N. and P. DIAMOND, 2006, "The Economics of Pensions", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 15-39.
- BENJAMIN, D., 2003. "Do 401(k)s Increase Saving? Evidence From Propensity Score. Subclassification," *Journal of Public Economics* 87(5-6), pp. 1259-1290.
- BORSCH-SUPAN, A., 2004. "Mind the Gap: The Effectiveness of Incentives to Boost Retirement Saving in Europe", *OECD Economic Studies*, No. 39, 2004/2.
- CALLAN, T., B. NOLAN and J.R. WALSH, 2007. "Pension Priorities: Getting the Balance Right" in T. Callan (ed.), *Budget Perspectives 2008*, Dublin: Economic and Social Research Institute.
- CHOI, J., D. LAIBSON, B. MADRIAN and A. METRICK. 2002. "Defined Contribution Pensions: Plan Rules, Participant Choices, and the Path of Least Resistance" in J. Poterba (ed.), *Tax Policy and the Economy*, Volume 16. Cambridge, Mass.: MIT Press.
- COMMISSION ON TAXATION, 2009. *Report of the Commission on Taxation*, Dublin: Stationery Office.
- DEPARTMENT OF SOCIAL AND FAMILY AFFAIRS, 2007. *Green Paper on Pensions*, Dublin: Stationery Office.
- DIAMOND, P., 2006. "Reforming Public Pensions in the US and the UK", *Economic Journal*, Vol. 116, No. 509, pp. F94-F118.
- DIAMOND, P. and P. ORSZAG, 2005. "Saving Social Security", *Journal of Economic Perspectives*, Vol. 19, No. 2. pp. 11-32.
- DISNEY, R., 2000. "Declining Public Pensions in an Era of Demographic Ageing: Will Private Provision Fill the Gap?", *European Economic Review*, Vol. 44, Issue 4, pp. 957-973.

- DISNEY, R., C. EMMERSON and M. WAKEFIELD, 2007. "Tax Reform and Retirement Saving Incentives: Evidence from the Introduction of Stakeholder Pensions in the UK", Institute for Fiscal Studies Working Paper, WP19/07.
- DUFLO, E. and E. SAEZ, 2003. "The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment," *The Quarterly Journal of Economics*, MIT Press, Vol. 118, No. 3, pps. 815-842, August.
- DUFLO, E., W. GALE, J. LIEBMAN, P. ORSZAG, E. SAEZ, 2005. "Savings Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block", NBER Working Paper No. 11680.
- ENGEN, E.M. and W. G. GALE, 2000. "The Effects of 401(k) Plans on Household Wealth: Differences Across Earnings Groups," The Brookings Institution, August.
- ENGEN, E., W.G. GALE, and J.K. SCHOLZ, 1996. "The Illusory Effect of Saving Incentives on Saving," *Journal of Economic Perspectives*, Vol. 10, No. 4 (Fall), pp. 113-138.
- ENGEN, E., J.K. SCHOLZ and W.G. GALE, 1994. "Do Saving Incentives Work?" *Brookings Papers on Economic Activity* (1), pp. 85-151.
- ENGEN, E., W. GALE, C. UCCELLO, C. CARROLL and D. LAIBSON, 1999. "The Adequacy of Household Saving", *Brookings Papers on Economic Activity*, Vol. 1999, No. 2, pp. 65-187.
- ENGELHARDT, G.V., 2001. "Have 401(k)s Raised Household Saving? Evidence from the Health and Retirement Survey," Aging Studies Program Paper No. 24, Center for Policy Research, Maxwell School of Citizenship and Public Affairs, Syracuse University, June.
- EU COMMISSION, DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS, 2009. Ireland: Macro-Fiscal Assessment, An Analysis of the October 2008 Update of the Stability Programme, 4 March 2009.
- FITZ GERALD, J., A. BERGIN, T. CONEFREY, S. DIFFNEY, D. DUFFY, I. KEARNEY, S. LYONS, L. MALAGUZZI VALERI, K. MAYOR and R. TOL, 2008. *Medium-Term Review: 2008-2015*, Dublin: The Economic and Social Research Institute.
- GALE, W.G., 1998. "The Effects of Pensions on Household Wealth: A Re-evaluation of Theory and Evidence," *Journal of Political Economy* Vol. 106, No. 4 (August), pp. 70-123.
- GALE, W.G. and P. ORSZAG, 2003. "Private Pensions: Issues and Options" in H. Aaron, J. Lindsay, and P. Nivola (eds.), *Agenda for the Nation* (Brookings).
- HILLS, J., 2006. "A New Pension Settlement for the Twenty-First Century? The UK Pensions Commission's Analysis and Proposals", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 113-132.
- HOLTZMANN, R. and M. PEARSON, 2007. "Introduction" in E. Whitehouse (ed.), *Pensions Panorama: Retirement-Income Systems in 53 Countries*, Washington: The World Bank.
- HUGHES, G. and J. STEWART, 2009. "The Public Service Pension Levy: Is it Fair?", http://www.tascnet.ie/upload/public_service_pension_levy_1.pdf
- IAPF, 2008. IAPF Green Paper Response, Dublin: Irish Association of Pension Funds, May.

- KELLY, E., S. MCGUINNESS and P.J. O'CONNELL, 2009. "Benchmarking, Social Partnership and Higher Remuneration: Wage Settling Institutions and the Public-Private Sector Wage Gap in Ireland", ESRI Working Paper No. 270, Dublin: The Economic and Social Research Institute.
- LANE, P.R., 2009. "Some Reflections on the Commission on Taxation Report 2009" in T. Callan (ed.), *Budget Perspectives 2010*, Dublin: The Economic and Social Research Institute.
- LUSARDI, A., P.A. KELLER and A. M. KELLER, 2009. "New Ways to Make People Save: A Social Marketing Approach", NBER Working Paper No. 14715.
- MCCARTHY, D., 2006. "The Rationale for Occupational Pensions", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 57-65.
- McHALE, J., 2005. "Perspectives on Retirement Savings Policies in Ireland" in T. Callan, A. Doris, D. McCoy (eds.), *Budget Perspectives 2006*, Dublin: The Economic and Social Research Institute.
- NOLAN, B. and C.T. WHELAN, 1996. *Resources, Deprivation and Poverty*, Oxford and New York: Oxford University Press, Clarendon Press.
- OECD, 2008. *Main Economic Indicators*, July, Paris: OECD.
- OECD, 2009. *Pensions at a Glance 2009: Retirement-Income Systems in OECD Countries*, Paris: OECD.
- OFFICE OF SOCIAL INCLUSION, 2006. "Review of Poverty Proofing", Dublin.
- ORSZAG, P., 2004. "Progressivity and Saving: Fixing the Nation's Upside-down Incentives for Saving", Testimony before the House Committee on Education and the Workforce, 25 February 2004.
- PENCE, K.M., 2002. "Nature or Nurture: Why Do 401(k) Participants Save Differently from Other Workers?" *National Tax Journal*, September.
- PENSIONS BOARD, 2005. *National Pensions Review*. Dublin: The Pensions Board.
- PENSIONS POLICY INSTITUTE, 2008. *Maintaining Consensus: Long-term Goals for the UK Pensions System and Options for Ongoing Policy Review*, London: Pensions Policy Institute.
- POTERBA, J.M., S. VENTI and D.A. WISE, 1995. "Do 401(k) Contributions Crowd Out Other Personal Saving?" *Journal of Public Economics*, Vol. 58, No. 1, pp. 1-32.
- POTERBA, J.M., S. VENTI and D.A. WISE, 1996. "How Retirement Saving Programs Increase Saving," *Journal of Economic Perspectives*, Vol. 10, No. 4 (Fall), pp. 91-112.
- POTERBA, J.M., S. VENTI and D.A. WISE, 2001. "The Transition to Personal Accounts and Increasing Retirement Wealth: Macro and Micro Evidence", NBER Working Papers 8610, Cambridge, Mass.: National Bureau of Economic Research, Inc.
- POTERBA, J.M., S. VENTI and D.A. WISE, 2004. "The Transition to Personal Accounts and Increasing Retirement Wealth: Macro- and Micro-evidence" in D.A. Wise (ed.), *Perspectives on the Economics of Aging*. A National Bureau of Economic Research conference report. Chicago: University of Chicago Press.
- PRICE, D., 2007. "The Pensions White Paper: Taking Account of Gender", *Benefits*, Vol. 15, No. 1, pp. 45-57.
- QUEISSER, M., E. WHITEHOUSE and P. WHITEFORD, 2007. "The Public-private Mix in OECD Countries", *Industrial Relations Journal*, Vol. 38, No. 6, pp. 542-568.

- REPORT OF THE PUBLIC SERVICE BENCHMARKING BODY, 2007. Dublin: Stationery Office.
- SEFTON, J., J. VAN DE VEN and M. WEALE, 2008. "Means-testing Retirement Benefits: Fostering Equity or Discouraging Savings", *Economic Journal*, Vol. 118, pp. 556-590.
- SHERRADEN, M., 2001. "Asset Building Policy and Programs for the Poor" in Thomas Shapiro and Edward Wolff (eds.), *Assets for the Poor: The Benefits of Spreading Asset Ownership*, New York: Russell Sage Foundation.
- SHOVEN, J.B. and G.S. GODA, 2008. "Adjusting Government Policies for Age Inflation", NBER Working Paper No. 14231.
- SUNDEN, A., 2006. "The Swedish Experience with Pension Reform", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 133-148.
- THALER, R. and S. BENARTZI, 2004. "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving", *Journal of Political Economy*, Vol. 112, No. 1, pt. 2.
- THOMPSON, L. H., 2006. "US Retirement Income System", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 95-112.
- UK PENSIONS COMMISSION, 2004. *Pensions: Challenges and Choices*, first Report of the Pensions Commission. London: TSO.
- UK PENSIONS COMMISSION, 2005. *A New Pension Settlement for the Twenty-first Century*, second Report of the Pensions Commission. London: TSO.
- WHITEFORD, P. and E. WHITEHOUSE, 2006. "Pension Challenges and Pension Reforms in OECD Countries", *Oxford Review of Economic Policy*, Vol. 22, No. 1, pp. 78-94.
- WHITEHOUSE, E., 1999. "The Tax Treatment of Funded Pensions", World Bank, Social Protection Discussion Paper No. 9910. New York: World Bank.
- WHITEHOUSE, E., 2007. "Life Expectancy Risk and Pensions: Who Bears the Burden?", OECD Social, Employment and Migration Working Papers No. 60, Paris: OECD.
- WHELAN, C. T., B. NOLAN and B. MAÎTRE, 2006. "Measuring Consistent Poverty in Ireland with EU SILC data", ESRI Working Paper 165, www.esri.ie



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