

Special Savings for Retirement

Report on mandatory pension system by The Pensions Board for
Seamus Brennan T. D.
Minister for Social and Family Affairs



An Bord Pinsean -
The Pensions Board

Authority for Pensions

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Glossary and abbreviations

Annuity	<i>A series of regular payments payable throughout the lifetime of the payee. It is normally secured by the payment of a lump sum to an insurance company</i>
Adequacy	<i>A measure of how much pension will be provided at retirement compared to income before retirement. This includes both first and second pillar pensions.</i>
Approved Retirement Fund	<i>A fund in which certain retirement funds can be invested rather than purchasing annuities</i>
Consumer Price Index	<i>The Consumer Price Index measures the change in the average level of prices paid for consumer goods and services by all private households and foreign visitors to Ireland and is the official measure of inflation in Ireland.</i>
Contributory State Pension	<i>A social insurance payment (part of the First Pillar) made to people age 66 or over who satisfy certain conditions. Entitlement is based on PRSI contributions paid and the benefit is not means tested.</i>
Coverage	<i>A measure of the proportion of the workforce that have supplementary pensions.</i>
Defined Benefit	<i>An occupational pension scheme where the benefit payable is determined by reference to earnings and length of service</i>
Defined Contribution	<i>An occupational pension scheme where the benefit payable is solely dependent on the value of the contributions that have been paid to the scheme and the investment return earned on those</i>
First Pillar	<i>Retirement pensions paid by the State under its social protection programme. In Ireland these are the Old Age (Contributory) Pension, Old Age (Non-Contributory) Pension and State Retirement Pension.</i>

Funding Standard	<i>This is a standard that requires defined benefit schemes to have enough assets to secure, in a wind-up position, the pension rights that members have built up. Defined benefit schemes must certify regularly whether or not they satisfy the funding standard.</i>
Gross Average Industrial Earnings	<i>Average earnings of industrial workers in manufacturing in Ireland, as measured by the Central Statistics Office.</i>
Hybrid model	<i>This term has been used to describe a mandatory system that comprises an increase in the State pension and a mandatory supplementary pension scheme.</i>
Gross National Product	<i>A measure of the total annual Irish economic output. At the beginning of 2006, the Central Statistics Office estimated this to be €136 billion.</i>
KiwiSaver	<i>KiwiSaver is a voluntary, work-based savings scheme. Its aim is to encourage well informed savings habits and asset accumulation to improve New Zealanders' financial wellbeing, particularly for retirement.</i>
National Pensions Policy Initiative	<i>An initiative jointly sponsored by the Department of Social, Community and Family Affairs and the Pensions Board. It was launched in 1996 to facilitate national debate on how to achieve a fully developed national pension system and to formulate a strategy and make recommendations for actions needed to achieve the system.</i>
National Pensions Reserve Fund	<i>A fund established by the State designed to pre-fund some of the projected increases in the cost of State and Public Service pensions.</i>
National Pensions Review	<i>A review conducted by the Pensions Board in 2005, at the request of the Minister for Social and Family Affairs, on pension coverage in Ireland and associated issues, which culminated in a report presented to the Minister in November 2005.</i>

Non-Contributory State Pension	<i>If an individual does not qualify for an Old Age Contributory Pension (OACP) if they qualify for OACP at a reduced rate, they may opt to be means-tested for an Old Age (Non-Contributory) Pension. The current maximum personal rate is €166.00 per week</i>
NPPI Report	<i>The report published as a result of the National Pensions Policy Initiative in 1998, titled “Securing Retirement Income”</i>
NPPI targets	<i>The National Pensions Policy Initiative devised specific targets relating to pensions coverage and adequacy.</i>
Occupational Pension Scheme	<i>A pension scheme, established by and at least partly funded by an employer for the benefit of employees</i>
Pay As You Go	<i>The approach taken where benefits are not pre-funded but are provided out of current contributions. State pensions and Public Service benefits are provided on this basis.</i>
Pensions Acts	<i>The Pensions Act, 1990 (as amended). This is the main legislation governing occupational pension schemes and Personal Retirement Savings Accounts in Ireland</i>
Personal Retirement Savings Account	<i>An individual investment account used for retirement provision.</i>
Retirement Annuity Contract	<i>A contract used for pension provision by self-employed and people in non-pensionable employment.</i>
Second Pillar	<i>Pensions received in addition to First Pillar pensions. In Ireland these may be occupational pension schemes, PRSAs or personal pensions. Also called supplementary provision.</i>

Social Partnership	<i>Social partnership in Ireland is an approach to government where interest groups outside of elected representatives play an active role in decision taking and policy making on a range of social and economic issues and to reach a consensus on policy.</i>
Soft Mandatory	<i>Pension system where eligible workers are obliged to join but have the right to opt out and cease contributing if they wish.</i>
Standard PRSA	<i>A Personal Retirement Savings Account that must comply with certain investment requirements and capped charges. Employers must grant their employees access to such a product where no, or a restricted, occupational pension scheme exists.</i>
State Retirement Benefits	<i>This is a social insurance payment made to people reaching age 65 who satisfy certain conditions. The amount is based on PRSI contributions paid and the benefit is not means tested. A person must be retired from insurable employment to receive this pension.</i>
Supplementary provision	<i>Pensions received in addition to First Pillar pensions. In Ireland these may be occupational pension schemes, PRSAs or personal pensions.</i>

Abbreviations

ARF – Approved Retirement Fund

Board – The Pensions Board

BVG – Current Swiss defined contribution pension plan

CPF – Central Provident Fund (Singapore)

CSO – The Central Statistics Office

DB – Defined Benefit

DC – Defined Contribution

ESRI – Economic Social & Research Institute

EU-SILC – EU Survey on Income and Living Conditions

GAIE – Gross Average Industrial Earnings

GNP – Gross National Product

IMF – International Monetary Fund

NESC – National Economic and Social Council

NPPI – National Pensions Policy Initiative

NPR – National Pensions Review

NPRF – National Pensions Reserve Fund

NPSS – National Pensions Savings Scheme (UK)

NTMA – National Treasury Management Agency

OECD – Organisation for Economic Cooperation and Development

PAYG – Pay As You Go

PRSA – Personal Retirement Savings Account

PRSI – Pay Related Social Insurance

SSIA – Special Savings Incentive Account

SW – Social Welfare

1. Executive summary

Background (Chapter 2)

- 1.1 In February 2006 Séamus Brennan T.D., Minister for Social and Family Affairs, wrote to the Pensions Board (“the Board”) and asked that ‘the general principles in relation to a mandatory or quasi-mandatory [pension] system... [be] fully explored with a view to recommending the most appropriate system for Ireland at a practical level and to cost this’. This report is the Board’s response to the Minister’s request.
- 1.2 There are differing views among members of the Board of the rationale for and the merits or drawbacks of mandatory pensions, which were set out in the report of the National Pensions Review (NPR). This report is a technical examination of the practical issues associated with a mandatory pension system. It is not a recommendation by the Board for or against the introduction of a mandatory system. The views expressed in the report are the collective views of Board members and do not necessarily represent the views of nominating representative organisations. Furthermore, the collective recommendation was made notwithstanding that Board members may individually have other preferences.

Key objectives and policy context (Chapter 3)

- 1.3 One of the core objectives of the current agreed Programme for Government (2002) is to help all older people to live in dignity by implementing a coordinated programme of measures to address the full range of issues of concern to older people. Pension provision in Ireland has been subject to considerable analysis over decades, but particularly over the last year.
- 1.4 The Board, through the NPR in 2005, also examined the current Irish pensions system and made proposals designed to improve pension provision.
- 1.5 The new partnership agreement ‘Towards 2016’ includes a specific commitment that the Government and the social partners will work together to enhance pension provision and income supports and that future policy in this area will be considered in the context of the NPR, the outcome of the further work requested in relation to mandatory pensions, the publication of a Green Paper by the Government on pension policy and the views expressed by stakeholders including social partners.
- 1.6 The objectives of this report are both to explore the general principles of a mandatory system and to make specific practical recommendations.

1.7 In undertaking the project, a number of principles were agreed by the Board at the outset

- (a) Ireland already has a good level of pension provision and a sound pension base and any changes should build on this. As far as possible, changes must not damage existing pension provision or worsen the existing position of any pension scheme.
- (b) Any mandatory system should ensure both adequacy and coverage objectives are met.
- (c) In considering how the system would be introduced any adverse effect on the current system of pension provision will need to be minimised.
- (d) The costs, economic impact, and effect on competitiveness of any model being considered will be examined as fully as possible.
- (e) Any recommendations made must be practical, capable of implementation, and likely to further the objectives of the mandatory approach.

Approach and background (Chapter 4)

1.8 The approach adopted in this report is to identify different types of mandatory system and, within each type, to define and specify the important parameters. These specific systems are then subjected to quantitative and qualitative assessment.

Overview of mandatory systems (Chapter 5)

1.9 The most basic choice in a mandatory system is between an extension of the current State pension and the creation of an additional mandatory supplementary pension. As part of this project, the Board considered both approaches in depth.

1.10 A number of countries have introduced mandatory supplementary systems in the last 25 years. Among the best known examples are Australia, Chile, Singapore, Sweden and Switzerland.

1.11 The Board commissioned

- Life Strategies, a firm of actuarial consultants, to provide projections of the effect of a number of pension systems.
- The Economic and Social Research Institute (ESRI) to quantify the macro-economics for Ireland of the introduction of the various types of mandatory pension systems examined. The ESRI used their medium-term model HERMES to simulate the economic effects of alternative

pension systems on macroeconomic variables such as Gross National Product (GNP), employment and unemployment. The medium term effects were then used by the Board in the long-term modelling by Life Strategies of the alternative systems.

- Fitzpatrick Associates to assess the likely broad economic impacts of the introduction of a mandatory pension system in Ireland, including the impact on discretionary savings, fiscal balance/national savings and competitiveness; the labour market effects of compulsory savings; and the prospective implications of the proposed system on potential economic growth rates.

The Board recognises that additional economic and projection of any proposed system would be of benefit.

- 1.12 The ESRI's modelling projected that any alternative system would have a negative impact on GDP and GNP growth and employment. It also projected a negative effect on real disposable income, wages and balance of payments. The level of impact on each of the macroeconomic variables differed from system to system.

The Fitzpatrick's study indicates that while mandatory pension contributions can negatively impact on the labour market, with repercussions in terms of national competitiveness and overall economic growth, a scheme could, with appropriate design and delivery, increase overall levels of saving.

It should be noted that there are differences between the projections of ESRI modelling and the report by Fitzpatrick Associates about the effect of mandatory pensions on the national savings ratio.

- 1.13 Having considered international experience, and the differences in the prevailing Irish economic and social situation, the report deals with particular mandatory pension systems which have potential for being introduced in Ireland, that is a first pillar, second pillar and a hybrid scheme as well as a soft mandatory option.

First pillar model (Chapter 6)

- 1.14 Chapter 6 considers whether the objectives of mandatory pension provision could be achieved by an increase in the contributory State pension.
- 1.15 The specific model examined in detail was based on the assumption of an increase in the amount of the State pension from its 2006 level of about 33% of Gross Average Industrial Earnings (GAIE) in 2005, to 50%, or from the current amount of about €193 per week to about €300 in 2006 value. It is assumed in the costings that the pension is increased from its current level to the target level over a period of ten years, and its level maintained as a proportion of GAIE thereafter through an explicit link between the State

pension and earnings increases. It is also assumed that anyone receiving a contributory State pension will be entitled to the increased State pension amount, irrespective of when they retired. Voluntary pension provision would continue as at present although some impact on the level of voluntary pension provision in light of the scale of the increase in the State Pension could be expected.

- 1.16 The economic impact and cost projections of this system are contained in chapter 6 as well as the other issues arising from such a model.
- 1.17 Increasing retirement benefits by increasing the State pension is conceptually and administratively straightforward, and the level of expense depends on the amount of increase being considered. Some of the aspects of such a system are worth highlighting
 - (a) Any increase in the State pension will result in additional income for those who have already retired as well as for future pensioners. Redistribution will therefore occur between the current generation of workers and those who have already retired or who will shortly retire.
 - (b) An increase in the State pension will not result in any additional administrative cost, as it will not cost the Department of Social and Family Affairs any more to administer the increased pension payments.
 - (c) Unless the cost of the increase is fully met from additional contributions, the result of an increase will be that the Exchequer will be providing an additional benefit to all pensioners, irrespective of whether they need it or not. This may be seen as a less efficient use of those resources compared to a more targeted approach and would give rise to significant opportunity costs in terms of overall public expenditure.
 - (d) If people are obliged to make additional contributions in return for an increased State pension, they will want reassurance that the State will have the capacity to provide the promised level of the State pension. However, the State pension amount is set by the Government each year, and there are no long-term commitments about the level of benefit or any increase in the pension once paid, or even the age at which it will be paid or the qualification conditions. If additional contributions are to be charged, more definitive commitments may be thought necessary, which may have important implications in restricting budgetary flexibility going forward.
 - (e) An increase in the level of State pension would result in a reduction in contributions and benefits from supplementary schemes which have a Social Welfare offset. There might also be a reduction in

supplementary coverage resulting from the view that the higher State pension would provide adequate income.

Supplementary model (Chapter 7)

1.18 Chapter 7 examines a mandatory pension system which obliges qualifying earners to contribute to a funded supplementary system. Such systems are usually intended to provide contributors with retirement income above that provided by basic State provision.

1.19 The supplementary model chosen for analysis was as follows:

(a)	Eligibility	All employees and self employed (but see discussion of harmonisation in section 7.27 below).
(b)	Eligible income	All earned income between 200% and 600% of the State pension (between approximately €20,000 and €60,000 as at June 2006)
(c)	Benefit type	Defined contribution
(d)	Contribution rate	15% of eligible income
(e)	Exchequer contribution	5% (included in the 15% above). This would be in lieu of any employer and employee PRSI relief and of any employee tax relief on contributions
(f)	Pre-retirement access	None

Contributions would increase gradually from zero to the full amount in the ten years after introduction. Those with adequate existing provision would be exempted from the mandatory scheme. Additional voluntary provision would be allowed on top of the mandatory scheme.

1.20 The economic impact and cost projections of this system are contained in chapter 7 as well as discussion of the issues arising from proceeding with such a model.

1.21 The design of a mandatory supplementary pension system is extremely complex. There are a large number of decisions which must be made about many aspects of the new pension arrangements and their interaction with existing pension provision before a detailed implementation recommendation can be made. The most significant issues which require detailed examination are set out below.

- (a) A mandatory supplementary system will require significant new structures to be created, including:

- Contribution collection and supervision mechanisms
- Compliance monitoring
- Harmonisation arrangements for existing schemes.

Most Board members thought it unlikely that the cost of these structures could be recovered from contributors. Furthermore, depending on the model chosen, these structures could involve some element of operational risk, which could possibly be substantial. It has to be decided whether the resulting eventual improvement in contributors' retirement provision justifies this effort.

- (b) If existing pension provision is to be protected and encouraged to continue, it is inevitable that relatively complex harmonisation rules will be needed. It is not certain that these rules would work effectively to ensure the successful knitting together of current voluntary and future mandatory supplementary pension saving.
- (c) A fundamental decision is how much contributors will be exposed to market investment and its resulting volatility: the alternative may be some form of State guarantee or State investment management. The Board member nominated by the Minister for Finance believes that State guarantees would transfer unknown and unquantified risks onto the Exchequer and future taxpayers.

Soft mandatory models (Chapter 8)

1.22 There is a great deal of support in Ireland and worldwide for soft mandatory or automatic enrolment pension systems. A soft mandatory system can be defined as a pension system where eligible workers are obliged to join, but they have the right to opt out and cease contributing if they wish.

1.23 It is planned to introduce soft mandatory savings schemes in New Zealand (the 'KiwiSaver') and in the U.K. (the National Pensions Savings Scheme, or NPSS). An outline of these proposals is provided in Appendix C.

1.24 The model chosen for analysis was as follows:

(a) Eligibility	All those beginning employment on or after the date of introduction of the scheme who do not become members of occupational schemes immediately on beginning employment. There would be no obligation for those who are self-employed to join, but those who wished could.

		Those in employment at the date of introduction of the scheme would also have the option of joining.
(b)	Employee contribution	5% of income
(c)	Employer contribution	2% of income
(d)	Exchequer contribution	2% of income, to a maximum contribution of €750 p.a.
(e)	Opt-out	Contributors could cease contributions after three months' contributions had been made. No immediate refund of contributions would be allowed in the first year. Employer and Exchequer contributions would be returned to them rather than to the employee.
		All employees who would be eligible to join on beginning employment would be allowed to recommence contributions at any time on one month's notice
(f)	Access to funds	Contributors would be allowed to access 25% of their funds tax-free on one occasion before or at retirement.

1.25 The principal implementation issues for a soft mandatory scheme are

- The number of participants in a soft mandatory scheme as described here will be smaller than a fully mandatory scheme. The approach adopted for contribution collection is therefore more likely to be an adaptation of an existing system than a new creation.
- The biggest compliance problem is likely to be employers and employees colluding to avoid the scheme. Supervision of compliance would be challenging.

1.26 A soft mandatory system is much less likely to be disruptive of existing occupational pension arrangements than a mandatory supplementary scheme as outlined in chapter 7.

- 1.27 It is extremely difficult to predict the take-up of a soft mandatory system: the success of such a system will depend on how effective the promotion of such a system is and how much it captures the interest of potential savers.

Hybrid model (Chapter 9)

- 1.28 It was decided to examine a proposal that would incorporate elements of both first pillar and supplementary mandatory systems to see whether a combined approach offered advantages over one or other alternative.
- 1.29 The hybrid system examined comprises an increased State pension as well as a mandatory supplementary system. The proposed increase in the State pension was a 20% increase over the current level. This would increase the pension from the current level of 33% of GAIE to 40%, and in current values, would increase the weekly pension from €193 to €232.

In addition to the increased State pension, a mandatory supplementary system would operate as follows:

(a)	Eligibility	All employees and self employed
(b)	Eligible income	All earned income between 125% and 500% of the increased State pension (between approximately €15,000 and €60,000 as at June 2006)
(c)	Benefit type	Defined contribution
(d)	Contribution rate	15% of eligible income
(e)	Exchequer contribution	5% (included in the 15% above). This would be in lieu of any employer and employee PRSI relief and of any employee tax relief on contributions
(f)	Pre-retirement access	None

It is assumed in the costings that the pension is increased from its current level to the target level over a period of ten years, and its level is maintained as a proportion of GAIE thereafter. It is also assumed that anyone receiving a contributory State pension will be entitled to the increased amount, irrespective of when they retired.

- 1.30 The economic impact and cost projections of this system are contained in chapter 9 as well as the advantages and disadvantages of proceeding with such a model. The implementation issues identified in chapter 7 for a mandatory supplementary scheme also arise for this model: indeed,

because the mandatory supplementary contributions under this system are greater than under that described in chapter 7, these issues are of more importance under this system.

Conclusion and recommendation (Chapter 10)

- 1.31 This report recommends that the most appropriate and practical approach to improving the position of pensioners in Ireland would be a combination of an increase in the State pension with a mandatory supplementary system for those at work who are not making supplementary provision. The system would be known as the Special Savings for Retirement (SSR) and individuals would hold Special Savings for Retirement Accounts or SSRAs.

This recommendation is being made in response to the specific request of the Minister for Social and Family Affairs in his letter to the Board of 6 February 2006. It is not a recommendation for or against the introduction of such a system. Furthermore, the collective recommendation was made notwithstanding that Board members may individually have other preferences.

The Board member nominated by the Minister for Finance believes that owing to such factors disclosed in the report as the significant Exchequer costs, the broader macroeconomic effects and the prospective adverse impact on existing voluntary provision, the Board's recommendation does not comprise a workable option.

- 1.32 The report specifically recommends that the contributory State pension be increased to 40% of GAIE over ten years until 2016 or similar period, and that the real value of the pension be maintained at least at that proportion of GAIE thereafter.
- 1.33 In addition, it is recommended that a supplementary system called Special Savings for Retirement be set up for all employees who are not members of occupational schemes or do not have sufficient supplementary savings.

The detailed provisions of the scheme are similar to those described in chapter 9 and are as follows:

(a) Eligibility	All employees and self employed who are not members of an approved pension arrangement or do not have sufficient supplementary savings would be automatically enrolled to the Special Savings for Retirement scheme (see 10.9(b) below)

(b)	Eligible income	All earned income above 50% of GAIE (approximately €15,000). An upper limit of no less than 200% of GAIE is recommended (approximately €60,000) though a limit of €90,000 was also suggested.
(c)	Total contribution rate	15% of eligible income. The split among employee/employer/Exchequer to be agreed as part of partnership.
(d)	Benefit type	Defined contribution (but subject to a minimum – see 10.9(f) below)
(e)	Access to funds	There would be no pre-retirement access to funds except in specified exceptional circumstances.

The mandatory contributions to the SSR would be introduced gradually over 10 years.

The projected costs of this system are summarised in chapter 9 and given in considerable detail in Appendix E.

1.34 The primary reasons why the above system is being proposed are as follows:

- (a) There is considerable support amongst the Board for an increase in the State pension as a means of improving retirement incomes for all existing and future retirees. The increase proposed above is intended to balance the considerations of improved retirement income and sustainability.
- (b) Because the proposed improvement in the State pension would be felt by many to be an inadequate retirement income, additional provision would be made through obligatory contributions to a supplementary savings scheme.

1.35 Some brief comments on the other systems considered are:

- (a) Although there is much support for the increase in State pension to 50% of GAIE as examined in chapter 6, the projected costs are seen to be a significant difficulty.
- (b) A mandatory supplementary system as described in chapter 7 will eventually deliver benefits close to the NPPI targets. However, such a system would take about 40 years to provide full benefits, and raises considerable issues of implementation and design complexity,

although these issues also arise to some degree in relation to the Board's preferred option.

- (c) Although there is much support in a soft mandatory system as described in chapter 8, there is concern that the take-up of the supplementary provision would be too low to achieve the desired objectives. It would however have the advantage of facilitating individuals in making their own retirement savings decisions.

1.36 The following is a summary of the observations on the Board's recommended mandatory system made by Fitzpatrick Associates in their report.

- Potentially highest costs of implementation
- Still some potential for negative external perceptions of additional 'taxation'
- Labour market impact more significant than purely supplementary scheme
- Guarantees greater minimum income in retirement
- Guards against regressive impacts with lower income threshold
- Stops higher income groups from using scheme as alternative investment option

The full text of their report is given in Appendix A.

1.37 Any change to supplementary pensions can potentially increase complexity and may have unintended consequences. The Board would therefore be in favour of further study of the detailed implementation of the supplementary mandatory system proposed, in combination with appropriate public consultation before the system could be introduced.

A number of relevant implementation issues were identified in chapters 6 and 7. The Board's current views on these topics are:

- (a) A number of the Board members are in favour of increasing the contribution to the NPRF sufficiently to cover the entire long-term cost of the increase in the State pension. The amount of this increase is estimated to be about an additional 1.3% of GNP, or about €1.7 billion per annum. However, other Board members are not in favour of pre-funding these payments.
- (b) Those making existing adequate occupational pension provision or who have sufficient savings would not be required to contribute to the

SSR scheme. Detailed regulations would be required to define what would constitute adequate alternative provision and appropriate certification procedures would have to be designed and supervised.

- (c) The Board's initial view favours the use of the PRSI system for collection of contributions, but recognises that considerable further investigation is needed.
- (d) There is a range of views about what the upper limit for eligibility should be. There is some support for setting this limit at 3 times GAIE or approximately €90,000.
- (e) The Board's initial view favours the investment of contributions by the State, possibly through the National Treasury Management Agency.
- (f) Some Board members believe that it would be appropriate to provide investment guarantees for contributions to the SSR scheme. Such guarantees could provide a minimum investment return, or could ensure a minimum retirement income.
- (g) The Board notes that the introduction of the Special Savings for Retirement system would require an increase in the regulatory resources required for ensuring compliance. This may include some or all of the Pensions Board, the Financial Regulator, the Revenue Commissioners, the Department of Social and Family Affairs, and possibly other bodies.

1.38 The Special Savings for Retirement system outlined in this report could improve retirement incomes for all existing and future retirees and encourage additional saving for retirement by those in the workforce.

1.39 The Board believes that the operation of the scheme should be carefully monitored so that any changes can be made in light of progress towards objectives and changes in circumstances affecting pensions. This may be the case if the scheme has any unforeseen effects.

1.40 While further consideration will need to be given to some of the implementation issues, the report provides a realistic picture of the practical implications of introducing such a system from a range of perspectives. In conjunction with the findings of the NPR, the Board believes that the up-to-date costs and projections shown in this report and its conclusions and recommendations will make a sound contribution to future decision making on pension provision.

2. Background

- 2.1 In a letter dated 6 February, 2006, Séamus Brennan T.D., Minister for Social and Family Affairs, asked the Pensions Board (the Board) that ‘the general principles in relation to a mandatory or quasi-mandatory [pension] system... [be] fully explored with a view to recommending the most appropriate system for Ireland at a practical level and to cost this’. The letter also asked that the consideration by the Board should fully explore ‘the extent to which the State can, or indeed should, guarantee returns when it requires them to contribute to a pension scheme.’ This report is the Board’s response to the Minister’s request.
- 2.2 There are differing views among members of the Board of the rationale for and the merits or drawbacks of mandatory pensions, depending on what type of mandatory system is under discussion. These views were set out fully in the report of the National Pensions Review (NPR), and are not revisited in this document.

This report is a technical examination of the practical issues associated with mandatory pension systems, and, in accordance with the request of the Minister, it considers what would be the most appropriate system, were a decision taken to introduce a mandatory system. This report is not, therefore, a recommendation by the Board for, or against, the introduction of such a system as there is no consensus on the Board on this issue. Rather, it seeks to set out the main social, economic, budgetary and practical implications of introducing what would appear to be the most appropriate system for Ireland should the Government decide to proceed along the mandatory route to better pension coverage and adequacy.

The views expressed in this report and in particular in the Conclusion and Recommendation (chapter 10) are the collective views of the Board members and do not necessarily represent the views of nominating representative organisations. Furthermore, the collective recommendation was made notwithstanding that Board members may individually have other preferences.

- 2.3 The Government is committed to
- (a) publishing a Green Paper on Pensions Policy outlining the major policy choices and challenges in the pensions area, and
 - (b) responding to the consultations on foot of the paper’s publication within 12 months of the ratification of the new partnership agreement, by developing a framework for comprehensively addressing the pension agenda over the longer term.

This is a key development which provides a vehicle for individuals or organisations to contribute views and information, and for a range of proposals to be considered by Government in relation to pensions planning. With regard to this report, it provides the context for consideration of all future policy in relation to pensions, including consideration of the issue of compulsory saving.

This report is presented as a contribution to the policy debate which will now take place. While further consideration will need to be given to some of the implementation issues, the analysis provided in this report, and our other reports, including the NPR, should provide a sound basis for the preparation of the Green Paper and Government decisions on pension provision. The Board looks forward to assisting with the Green Paper process and is available to provide elaboration on any issues contained in this report, as appropriate.

3. Key objectives and policy context

- 3.1 One of the core objectives of the current Agreed Programme for Government (2002) is to help all older people to live in dignity by implementing a coordinated programme of measures to address the full range of issues of concern to older people. Similar objectives have been agreed by the social partners in successive national agreements. State pensions for older people have increased by almost 100% in less than a decade, significantly ahead of increases in the Consumer Price Index and gross earnings over the same period. Although considerable progress has been made in the level of the State pension, neither the level of State pensions, nor the coverage or adequacy of occupational and personal pensions have reached the targets set out in Government programmes, national agreements or Board reports over the years. It is however important to note in assessing progress in achieving coverage targets that a significantly greater number of people are now covered by supplementary pension arrangements reflecting the very strong growth in employment over recent years and record employment levels overall.

Pension provision in Ireland has been subject to considerable analysis over decades, but particularly over the last year. The Economic and Social Research Institute (ESRI) has undertaken an assessment of age-related pressures on the public finances from 2005 to 2050. The Organisation for Economic Cooperation and Development (OECD), in both their “Economic Survey of Ireland 2006” and their report on ageing and employment policies in Ireland published at end 2005, commented on the need for further reform; while the International Monetary Fund (IMF) report on Ireland in October 2005 welcomed further consideration of policy responses given concerns that households on the whole are not saving enough for retirement. These reports recommended a number of important measures that could be taken to address the challenge of population ageing in Ireland. However, these recommendations are not considered in this report owing to its specific focus on the design of a mandatory pension system.

The National Economic and Social Council report “Strategy 2006: People, Productivity and Purpose”, prepared in conjunction with the social partners as an input into the 2006 social partnership talks, also pointed to the need for a more effective overall pensions system. It identified that a key question in this regard is whether to continue with the voluntary tax supported approach to earnings replacement, or to adopt an alternative approach such as a State earnings-related pension or the adoption of a mandatory savings approach.

National Pensions Review (2005)

- 3.2 The National Pensions Review (NPR) carried out by the Board in 2005 examined the current Irish pensions system with particular reference to the targets set out in the National Pensions Policy Initiative Report (NPPI) of 1998, "Securing Retirement Income". The NPR concluded with a set of proposals designed to deliver on the Government commitment to ensure an adequate retirement income for all.

The principal areas covered by the NPR included

- (a) a review of the targets recommended in NPPI, including the main NPPI targets for coverage and adequacy
- (b) a review of current levels of coverage and adequacy, taking State pension provision and occupational and personal pension provision into account
- (c) policy issues relating to sustaining the first pillar (State pension) provision
- (d) consideration of strategic options for meeting the NPPI targets i.e. various alternative national systems within the objective of achieving the targets
- (e) consideration of possible enhancements to encourage greater take-up of supplementary provision and recommendation of specific enhancements by the Board
- (f) views on possible mandatory pension provision. This set out the general considerations regarding a mandatory approach to achieving NPPI targets and outlined the views of Board members in that regard.

The key messages arising from the NPR are

- (i) A significant increase in the annual costs of Social Welfare/State retirement pensions and public service pensions is predicted which is much greater than previously expected.
- (ii) Good pension provision has a very high cost which arises however it is financed i.e. by employers, employees, self-employed, individuals or taxpayers through the Exchequer. The key question is therefore the distribution of those costs and ensuring that whatever approach is adopted is affordable from a fiscal perspective and consistent with the long-term sustainability of Ireland's economic performance.
- (iii) Supplementary pension coverage is currently insufficient and is a cause for concern, notwithstanding the significant increase in

coverage in absolute terms. Furthermore, there does not appear to be any improvement in the adequacy of pension provision.

- (iv) Most Board members agreed that pension coverage and adequacy targets will not be met without some change to the present pension system.
- (v) The Board recommended specific changes to the current voluntary supplementary system and, in addition, some – but not all – members of the Board believed that the only certain way of achieving the supplementary coverage and adequacy targets would be to adopt a mandatory approach to pension contributions. The Board had insufficient time at that stage to thoroughly investigate and cost the many possible approaches but gave some information on five possible scenarios.

The NPR report was publicly launched by Mr Séamus Brennan T.D., Minister for Social and Family Affairs, in January 2006. In doing so, the Minister welcomed the document as a very comprehensive report that would be a valuable contribution to the future design and delivery of pension reforms. While welcoming the proposals for enhancements to the voluntary system and their undoubted scope to deliver increased pensions coverage, he also felt that the introduction of a mandatory or quasi-mandatory system should be further explored. Arising from a national debate, including discussions within the social partnership process, on the issues raised in the NPR report, the Government would, he indicated, in time reach conclusions on the various proposals and seek to achieve a consensus on how best to lay the foundations for future retirement security for everyone.

The NPR included a specific recommendation that individuals would have the option on deferring their State pension in return for a higher pension beginning at a later date. This is intended to remove one of the barriers to working longer for those who choose to, without affecting the rights of those who do not. The Minister has asked his officials in the Department for Social and Family Affairs to investigate this matter further.

Developments 2006

- 3.3 The main developments since the NPR which are relevant to this report are set out below, including the Finance Act 2006, the National Pensions Forum (May 2006), and the new partnership agreement “Towards 2016” (proposed National Agreement, June 2006)*.

* It will not be known until September 2006 whether Towards 2016 has been ratified by all the various parties

Since the launch of the NPR, the Finance Act 2006 included changes to the tax system designed to encourage lower income holders of Special Savings Incentive Accounts (SSIAs) (whether within or outside the tax net) to transfer their maturing SSIA funds into pension provision, as well as measures to increase for older workers (aged 55 or over) the tax relief available on contributions to pension provision.

On 5 May 2006, the Minister called together all parties interested in pension reform to a National Pensions Forum to consider the central issues and to hear the views of all stakeholders on the way forward, including public representatives, social partners, industry representatives and those representing the interests of pensioners. While the main purpose of the Forum was to hear the views of stakeholders on the conclusions of the NPR, speakers were also invited to outline major reforms proposed or undertaken in other countries. The Forum provided the opportunities for a wide range of views to be explained and considered.

Towards 2016

One of the most important pension developments in 2006 to date was the completion of the partnership talks in June 2006. The multi-dimensional nature of the question of pension provision is reflected in the proposed new national partnership agreement. While “Towards 2016” does not contain any commitment to introduce mandatory pensions, it does highlight the commitment of the Government and the social partners to working together over the next ten years towards the following relevant goals and actions:

- (a) Every person of working age would have an income level to sustain an acceptable standard of living and to enable them to provide for an adequate income in retirement.
- (b) Support adequately all people of working age, whether in the labour force or out of it, through the social protection system. Elements of social protection will be examined to ensure that atypical working, the reconciliation of work and family life and those working on low incomes are supported.
- (c) Every older person would have access to an income which is sufficient to sustain an acceptable standard of living. Specific actions include enhancement of Social Welfare pensions and qualified adult allowance for pensioner spouses, finalisation of the deliberations of the Working Group on Administrative Individualisation and enhancement of the social insurance system to reflect the contribution of farm spouses.
- (d) Provide an adequate income in retirement which, as far as possible, is related to pre-retirement income.

- (e) Enhance the level of occupational pension coverage. The social partners will co-operate to promote improvements in the coverage of pension schemes towards the agreed NPPI target of 70% of the total workforce over age 30.

Actions are also included regarding a partnership pensions review, timeframes for a Green Paper on National Pensions Policy and transposition into Irish law of the optional pension provisions of the EU's Transfer of Undertakings Directive.

The agreement includes a specific commitment that the Government and the social partners will work together to enhance pension provision and income supports and that future policy in this area will be considered in the context of the NPR, the outcome of the further work requested in relation to mandatory pensions, the publication of a Green Paper by the Government on pensions policy and the views expressed by stakeholders including the social partners. The parties are agreed that in order to promote the achievement of the pensions objectives and aspirations set out in the agreement they will actively co-operate both at national level (e.g. under the auspices of the Board) and at workplace level.

Process for devising a mandatory system

- 3.4 The NPR identified that some Board members believed that a mandatory approach is the only certain way of achieving the NPPI targets, while others believed that the cost of the certainties which can be provided by a mandatory supplementary pensions system is too great in terms of macroeconomic, budgetary and other impacts, including the effect on existing provision. Ultimately this is a decision for Government to make, having regard to a range of social, economic and fiscal considerations, including the perspective of the Board.

In February, the Minister for Social and Family Affairs wrote to the Chairperson of the Board, Mr Tiarnan O Mahoney, asking that the principles in relation to a mandatory or quasi-mandatory pension system would be explored with a view to recommending the most appropriate system for Ireland at a practical level, were the Government to proceed in this direction.

The Board, at its meeting of 20 March, 2006, agreed to undertake a technical exercise to devise a number of possible mandatory pension systems, and to seek to identify the most appropriate as requested by the Minister. It is not intended that this exercise will revisit the principle of mandatory pension provision, but will focus on what such schemes might look like and the impact of introducing such schemes in terms of costs, long-term fiscal and economic performance, etc., if it were decided that this

was the best way of achieving the objectives of the national pensions strategy. This exercise, therefore, will include

- (a) a background to the recommendation made, including environmental factors, principles and criteria used
- (b) a proposed mandatory/quasi-mandatory pension system
- (c) a projection of the contribution costs of the system to workers (whether employed or self-employed), employers and the Exchequer, and
- (d) a commentary on the expected macro impact and on the anticipated effects of the system on existing pension provision.

Having regard to the extensive consultation process which had taken place in the context of the NPR, a workshop for Board members was held at the outset of the project with a view to identifying the key issues at the earliest possible stage. An Oversight Committee was also established to oversee the project and to act as a source of feedback and commentary to the project team. The following were appointed to serve on this:

Tiarnan O Mahoney – Chairperson of the Pension Board and of the committee

William Beausang – Department of Finance

Rosheen Callender – Irish Congress of Trade Unions.

Marie Daly – Irish Business and Employers Confederation*

Brendan Kennedy – Board Executive

Anne Maher – Board Executive

Jerry Moriarty – Board Executive

Anne Vaughan – Department of Social and Family Affairs

Fergus Whelan – Irish Congress of Trade Unions

Yvonne White – Board Executive.

(*Irish Business and Employers Confederation withdrew its representative on 10 May, 2006)

The Oversight Committee met on three occasions and the report was considered by the full Board at its meeting on 26 June, 2006.

Consultancy support in the areas of costings, economic effect and the effect of a mandatory regime on current pension provision was also sought and provided by Life Strategies, the ESRI, and Fitzpatrick Associates.

Relevant NPR conclusions in relation to mandatory pensions

- 3.5 The NPR considered the role of mandatory pensions in meeting coverage and adequacy targets and concluded that any mandatory system could be structured to achieve any given set of targets in this regard, although the adequacy targets established in the NPPI will have significant economic and financial implications regardless of whether they are achieved through voluntary or mandatory means. The main NPPI targets are a replacement income of 50% of gross pre-retirement income, a minimum State contributory retirement pension of 34% of Gross Average Industrial Earnings (GAIE), and, in order to achieve this, a supplementary pension coverage rate of 70% of those aged 30 and over.

The NPR concluded that proposals for a mandatory private sector system would have to be assessed in the light of judgements on

- (a) the ability of the pensions industry to provide a fair, comprehensive, competitive and comprehensible service to a largely financially-unsophisticated public
- (b) the implications for the present system of tax relief
- (c) the effects on other forms of saving nationally, and
- (d) the possibility of the element of compulsion involved generating claims of State liability to make good shortfalls in the event of losses suffered by participants, not only on the collapse of individual schemes, but also in the normal year-to-year operations of the various schemes.

The case made for a mandatory State-run system would have to take account of

- (i) the cost of the system to the Exchequer
- (ii) the implications for the saving and financial services industry generally, and
- (iii) the degree of State liability entailed in compulsion to join a State-run pension system.

The NPR also outlined a number of alternatives to moving immediately to a full mandatory system, including

1. introducing a mandatory system with a long lead-in time.

2. gradual increases in the amount of mandatory contribution building up to the target rate, easing contributor adjustment to the cost of the system.
3. gradual increases in the income subject to mandatory contribution. The potential drawback of this approach is that the impact of the system in the early years will differ significantly for different categories of people.
4. limiting the mandatory system to those entering the workforce, or those born after a certain year. Such an approach would have to avoid creating disincentives to the employment of those subject to the mandatory scheme, whereas a requirement for a minimum contribution level that is equal for all at least places all employees and employers on an equal footing.
5. a soft mandatory system of automatic enrolment, allowing for subsequent opting-out in specified circumstances.

The NPR identified that mandatory pension provision is one of a number of options for meeting NPPI targets and that in practice a combination of options may be required. Among the potential models for mandatory/quasi-mandatory pensions considered in this report will be the possibility of increasing contributions to provide increased first pillar/State pensions.

As described in chapter 2, this report does not deal with the question of comparison of mandatory systems with non-mandatory alternatives as a means of achieving pension objectives. This report is a technical examination of the practical issues involved in designing and implementing some form of mandatory system.

Principles

- 3.6 In undertaking the project, a number of principles were agreed by the Board at the outset:
 - (a) Build on a sound base: Ireland already has a good level of pension provision and a sound pension base and any changes should build on this rather than adversely affect the existing system of voluntary supplementary pension provision. Moreover, Ireland already has one mandatory pension system in the form of the Pay Related Social Insurance (PRSI) based contributory State pension. This exercise is concerned with a mandatory pension system intended to provide a retirement income greater than that which is minimally necessary to avoid poverty. As far as possible, changes must not damage existing pension provision or worsen the existing position of any pension scheme – employer involvement in good quality pension provision should be maintained and encouraged.

- (b) Ensure both adequacy and coverage objectives are met: The overall objective is to improve the situation with regards to pensions both in terms of coverage and the amount of pensions paid. A central consideration here is the level of inclusiveness, since a system could apply only to employees or might include the self-employed; it could include the private sector or both private sector and public sector; it could be limited to earners above or below certain ages; and there may be other eligibility rules, for instance exempting smaller employers. It is also likely that income below a certain minimum would not be included, and that there would be an upper limit. Ultimately, any new system will be aimed at overcoming the effects of inertia, interrupted careers and other factors which have contributed to low levels of coverage. Furthermore it must be capable of coping with the increase in atypical employment patterns and the shift away from traditional employment patterns that underlie much current pension scheme design. The model should be capable of delivering a significant increase in participation in pension savings to provide an appropriate standard of living and quality of life in retirement.
- (c) Plan implementation and identification of any barriers which exist: In considering how the system would be introduced, depending on whether it would cover all eligible individuals or merely new entrants, the effect on the current system of pension provision will need to be considered. Consideration will need to be given to changeover costs, as appropriate. Continuity will need to be planned for, given the long-term nature of pensions, including an assessment of whether the system being examined is similar to the current system and whether any changes can be reasonably easily accommodated. Any system being considered must be robust enough to deal with future events and as transparent and simple as possible if it is to be accepted by the widest number of people.
- (d) Count the costs and benefits: The costs and economic impact of any model being considered will be examined as fully as possible, as well as the social benefits and socio-economic impact. The effects on workers, employers (where relevant) and on the Exchequer will be separately assessed and considered. Overall affordability from a budgetary perspective is a key consideration to ensure the long-term sustainability of Ireland's fiscal and competitive position.
- (e) Provide a practical solution: Any recommendations made must be practical, capable of implementation, and likely to further the objectives of the mandatory approach.

The following chapters explore in more detail potential models for mandatory pension provision in the Irish context, having regard to the objectives and principles outlined above.

4. Approach and background

4.1 The objectives of this report are both to explore the general principles of a mandatory system and to make specific practical recommendations. To this end, the approach adopted by the Board was as follows:

- (a) Different types of mandatory system were identified for examination, having regard to international experience and prevailing and expected future Irish conditions.
- (b) Within each type of mandatory system, the main parameters were identified and values specified. The resulting systems were examined, costed in detail and economic impacts considered.
- (c) A comparison of the differing specific proposals was then made and a recommendation identified.

Chapter 5 identifies the different classes of mandatory system and considers the differences between them. The following chapters then define and examine a specific proposal from each system. Chapter 10 identifies the Board's recommendation within the context of the project.

Coverage and adequacy

4.2 One of the most important criteria against which different systems will be judged will be their effectiveness in improving pension coverage and adequacy as compared with, for instance, the NPPI objectives. It is therefore useful to examine the information available about current coverage and adequacy. This can then be used as a basis for comparing alternative systems.

Table 4.2.1 shows the pension coverage data from 2004 for employed and self-employed, analysed by age, gender and weekly income. These data have been provided by the Central Statistics Office (CSO) from the EU-SILC survey, and are the most recent available.

Table 4.2.1 – pension coverage in 2004 for persons aged 20 to 69 and in employment

Decile	Income per week €	Average pension coverage %	Male pension coverage %	Female pension coverage %	Females as % of total in decile	Average age
1	0-139.99	9.5	12.7	7.7	64	41.5
2	140.00-241.47	20.4	16.6	22.4	66	41.4
3	241.48-325.80	29.0	25.9	31.1	59	38.3
4	325.81-398.05	37.6	30.8	44.5	50	38.1
5	398.06-466.83	49.6	45.1	54.7	47	37.7
6	466.84-549.53	50.8	48.0	56.2	34	39.5
7	549.54-651.59	67.0	63.4	73.3	36	39.6
8	651.60-794.39	73.9	72.6	77.7	26	41.7
9	794.40-1034.88	81.8	82.0	81.5	29	43.3
10	1,034.89+	87.1	86.3	89.9	22	45.5
Total		50.6	54.9	45.0	43	40.7

Income is defined in the above table as the sum of gross employee and self-employed income.

Note that the State pension in 2004 was €162 per week.

There is no aggregate measure of pension income adequacy relative to NPPI or other targets comparable to that for pension coverage. However, Table 4.2.2 shows an approximate analysis of the types of pension coverage at the end of 2005, based on data from the Board's register, Personal Retirement Savings Account (PRSA) data and CSO surveys.

Table 4.2.2 – approximate analysis of pension coverage

	%
Occupational defined benefit – private sector	27
Occupational defined benefit – public sector	29
Occupational defined contribution	26
RACs, PRSAs	19
Total	100

In the above table, those defined benefit schemes subject to the funding standard are assumed to be private sector, and those not subject to the standard are assumed to be public sector. The assumption is not quite accurate in all circumstances but is believed to be reasonable for these purposes.

Although adequacy for each individual is different, the following broad classifications may be useful as a very rough guide to adequacy as defined by reference to the NPPI targets – note that the assessment of adequacy includes State pension:

Public service DB	Most members of these schemes are likely to meet the NPPI targets for retirement income adequacy.
Private sector DB	Although there is variation in scheme benefits, members with long service with a single employer are likely to meet NPPI adequacy targets. Those with frequent changes of employment are less likely to achieve adequacy.
Private sector DC	Based on consideration of typical contribution rates, it is unlikely that most will achieve NPPI adequacy.
PRSAs and RACs	Although data are fragmented and incomplete, it appears unlikely that many will achieve adequacy, except among pension-aware high earners.
No provision	Those earning less than €20,000 p.a. are likely to achieve the NPPI replacement targets by relying solely on the State pension. However, there are approximately 640,000 who will not achieve this target because of lack of supplementary provision.

Projections

- 4.3 The Board commissioned Life Strategies, a firm of actuarial consultants, to provide financial projections for a number of pension systems. The complete range of results and a commentary on the modelling used is included in Appendices D and E. The modelling approach used followed that adopted in the NPR, but there were some differences in assumptions, which are explained later in this report.

The Board has been asked to examine the costs of any mandatory system proposed. In any event, the Board is of the view that modelling of the costs and benefits of pension systems under consideration is essential in order to understand how such systems work and what the effects of them may be.

However, the limitations of such projections must be understood. The modelling of pension systems is necessarily long-term, and must include a considerable number of underlying assumptions. While it would be possible to perform the projections using other, equally reasonable assumptions, resulting in different projection outcomes, the approach taken, as far as possible, has been to ensure consistency with official forecasts from the CSO and Department of Finance. The projections are illustrations of what would be the impact of these pension systems, on the basis of a set of assumptions which, taken together, are considered to be reasonable.

- 4.4 The central basis used for the projections was based on that used in the NPR, and the details are provided in Appendix D. As well as this central basis, alternative projections were prepared in order to examine the robustness of the systems under examination under a range of different assumptions. These alternatives illustrate the possible effects of different migration assumptions and of different rates of investment return.

In addition to the bases described above, some additional projections were prepared which attempted to incorporate the economic effects of the pension system on the economic assumptions used. The results of these are included in this report, but further study is needed to improve these estimates.

5. Overview of mandatory systems

- 5.1 The Board has been asked to prepare a worked-out and costed model of a practical mandatory pension system, but has not been restricted by its terms of reference to any particular model. It has been frequently pointed out that Ireland already has one mandatory occupational pension system, namely the contributory State pension (known up to now as the contributory old-age pension). Therefore we are looking at what would effectively be a second supplementary mandatory system, or an extension of the first.
- 5.2 As part of this project, the Board considered both approaches in depth. These are explored fully in chapters 6 and 7. It is useful to first consider the differences of approach embodied in the two alternatives, particularly in terms of the redistributive effects, the relationship between contributions and benefits and funding issues, as well as pointing out some differences that can be reduced or eliminated.

- (a) It is a primary objective of the State pension to be intentionally redistributive. The benefits that any qualifying contributor receives are not directly related to the amount of his or her contributions, or his or her employer's contributions, but primarily to the number of qualifying contributions made. The result is that there is a cross-subsidy from the better-off to the less well-off. This reflects the policy intention of this pension, which is to provide a basic income in retirement for the prevention of absolute poverty.

On the other hand, it is not an objective of existing supplementary pension provision to be redistributive, though some redistribution may occur in practice. Instead, a supplementary pension is intended to provide for retirement from the contributions of a participant and/or his or her employer, with assistance from the State in the form of tax incentives. In a defined contribution scheme, there may be some cross-subsidy of administration cost, but it is not likely to be significant. In a defined benefit scheme, there is cross-subsidy from those who contribute in times of better investment return to those whose contributions earn less. However, this cross-subsidy is better understood as risk sharing, and is not structural, insofar as it is not known from the start who will gain most. Within defined benefit schemes there is also an element of structural cross-subsidy towards those who retire on higher incomes, particularly to those who experience income growth late in their career, but it is probably fair to say that this subsidy is unintended.

- (b) In supplementary pension provision, the benefits must in aggregate be related to the contributions made. In defined contribution schemes, the benefits are a direct function of the accumulated contributions and

the investment return earned. In defined benefit schemes, the contributions are calculated to be sufficient to provide the promised benefits over time: if it eventually appears that they will not be adequate, the benefits may have to be reduced and/or the contributions increased.

There is no actuarial relationship between the individual's aggregate contributions and the eventual benefits under the State pension. The amount of the benefits and of the contributions are political decisions, and if there is a shortfall in contribution income in any given year, the difference has been met by way of Exchequer contribution, although benefits could also be adjusted. In recent years there have been periodic actuarial reviews of the Social Insurance Fund in order to assess the likely proportion of PRSI contributions which should be earmarked for the pensions in the years ahead, although this is not performed for the purposes of setting the PRSI contribution rate.

- (c) The State pension is now partially funded, i.e. assets have been intentionally accumulated to meet part of the future cost of the contributory State pension. These assets are held in the National Pensions Reserve Fund (NPRF), as recommended in the Board's 1998 Report "Securing Retirement Income". Part of the NPRF will also be used to meet part of the future costs of public service pensions, as recommended in the Report of the Public Service Pensions Commission (November, 2000). All private sector pension provision in Ireland must be funded in accordance with the Pensions Act.

The decision to put in place additional mandatory provision can be made separately from the decision whether or not to fund it. Any increase in the State pension could be fully or partially funded, or a decision could be taken to meet the future additional pensions on a Pay-As-You-Go (PAYG) basis i.e. from general taxation or on a shared-cost basis. If a supplementary mandatory system is preferred, it would be funded if the investment is via the private sector (see section 7.16). However, if the funds to be invested are paid to the Exchequer, a decision can be made whether or not to fund the benefits. If the scheme is to be funded, the Exchequer would invest the contributions and use the proceeds to provide benefits; if not, the State could collect contributions and keep track of entitlements, but use the contributions and pay the eventual benefits from general taxation. This latter approach would clearly increase the Exchequer's PAYG pension costs over time.

International examples

- 5.3 A number of countries have introduced mandatory supplementary systems in the last 25 years. Among the best known examples are:

Australia

Australia's mandatory system is funded by compulsory employer contributions (which have been phased upwards from 3% of eligible income in 1988 to 9% since 2002) and voluntary employee contributions. Employers must make a mandatory contribution of 9% for employees earning over AUD\$450 (approximately €265) per month and although not required to contribute for workers earning less than AUD\$450 monthly they can choose to do so. Funds are chosen by the employer subject to collective bargaining. Self-employed workers are not obliged to contribute. 90% of employees are covered by the supplementary pensions system.

Chile

Mandatory pensions were introduced in Chile in 1981. Employees pay 10% of salary, with contributions placed in individual accounts, but tax-deductible payments of up to 20% of salary are permitted. Employers are not obliged to contribute. The system is mandatory for all workers entering the labour market, although the self-employed are not obliged to participate. Upon retirement, workers can choose the form their provision may take – life-time annuity, programmed withdrawals, or temporary programmed withdrawals with a deferred life-time annuity.

Singapore

Singapore's system is publicly managed, operated through a portable nominal defined contribution system but is effectively operated on a PAYG basis. The Central Provident Fund (CPF) is the main vehicle for this system and is open to permanent residents and Singapore citizens. Employers and employees make monthly contributions to the CPF which go into three separate accounts – an ordinary account (for savings towards buying a home, paying for CPF insurance, investment and education), a special account (for old age, contingency purposes, and investment in retirement-related financial products), and a Medisave account (for hospital expenses and approved medical insurance). Contribution rates (which reduce upon reaching 50 years of age) are as follows:

- Private sector employees – 20%
- Private sector employers – 13%
- Public sector employees (non pensionable) – 20%

- Public sector employers (non pensionable) – 13%
- Public sector employees (pensionable) – 15%
- Public sector employers (pensionable) – 9.75%

CPF savings can be withdrawn at age 55, subject to setting aside a minimum sum which is used to buy an annuity, placed in a fixed deposit account, or left in the retirement account managed by the CPF Board. From age 62, monthly payments are made from the minimum sum. A voluntary Supplementary Retirement Scheme (SRS) complements the CPF.

Sweden

Employees contribute 7% of salary (up to a ceiling) and employers contribute 10.21% to the State Social Welfare system. The system is largely operated on a PAYG basis, but with a notional defined contribution concept where contributions paid by each individual define pension rights. 2.5% of contributions are paid into a personal, defined contribution plan known as the “Premium Pension”: these contributions are invested in private sector managed individual accounts.

Switzerland

All employees earning over a minimum income (currently SFr 25,535 p.a. or approximately €16,400) must contribute towards a defined contribution pension plan – the BVG. Employed and self-employed persons who are not subject to mandatory cover can take out voluntary cover. Both employees and employers contribute to the plan with a minimum total contribution of 12% of the employee’s salary. The BVG has an upper limit on the benefits it can pay (70% of final salary), so there is a ceiling above which pension contributions are not paid. Occupational schemes are established as foundations, separate from the employer’s business and with employee and employer representation.

Economic impact

- 5.4 The level of contributions and benefits is as important as the type of system chosen although different mandatory systems would be expected to give rise to different macroeconomic effects depending on specific design elements. A mandatory system with significant contributions will have an economic impact, related to the level of contributions and the benefits provided.

The Board commissioned the ESRI to provide specific estimates of the impact of a number of mandatory systems. The detailed results of these projections are shown in the relevant chapters later in this report. The ESRI’s modelling projected that any alternative system would have a

negative impact on GDP and GNP growth and employment. It also projected a negative effect on real disposable income, wages and balance of payments. The level of impact on each of the macroeconomic variables differed from system to system.

In addition, the Board commissioned Fitzpatrick Associates to assess the likely broad economic impacts of the introduction of a mandatory pension system in Ireland, including the impact on discretionary savings, fiscal balance/national savings and competitiveness; the labour market effects of compulsory savings; and the prospective implications of the proposed system on potential economic growth rates. This assessment was based on existing available international research literature and information, including the results of the economic modelling work undertaken by the ESRI for this review.

The Fitzpatrick's study indicates that the general view is that while mandatory pension contributions can negatively impact on the labour market, with repercussions in terms of national competitiveness and overall economic growth, a scheme could, with appropriate design and delivery, increase overall levels of saving. If these savings can be productively invested, expansions in national output can be generated. Overall, it is clear that the extent to which such impacts are realised is a product of the design and delivery of the system. The nature of its introduction, and especially a phased approach, are important in terms of the risk of potentially negative adverse effects on long-term economic performance.

Model	Issues for consideration
State pension of 50% GAIE (see chapter 6)	▪ Simplest and most cost effective to implement ▪ Perceived as additional taxation to a greater extent than a supplementary scheme ▪ Most likely to have greatest negative impact on national savings, compared to other models ▪ Resultant impact on labour force participation ▪ Impact on labour demand dependent on scale of increase in employers' PRSI contributions ▪ Less likely to impact on participation in voluntary pension schemes ▪ Approach may be perceived as overly

Model	Issues for consideration
Supplementary scheme with 15% contribution (see chapter 7)	interventionist by potential inward investors ▪ More significant implementation costs ▪ Potential to generate increase in total aggregate savings, (although not guaranteed) ▪ May reduce contributions to voluntary pension schemes ▪ Less of a labour market impact than a PRSI based scheme ▪ Phased in rather than immediate approach may reduce impact ▪ Works most efficiently where balance exists between employers' and employees' contributions
Hybrid of increased State pension and supplementary system (see chapter 9)	▪ Potentially highest costs of implementation ▪ Still some potential for negative external perceptions of additional taxation ▪ Labour market impact more significant than purely supplementary scheme ▪ Guarantees greater minimum retirement income ▪ Guards against regressive impact with lower income threshold ▪ Stops higher income groups using scheme as alternative investment option

While international literature on the specific economic impacts of mandatory pension provision is limited, this study reviewed a range of material that provides good illustrative examples of the impacts that might result were such a scheme to be introduced. While direct application of such findings to the specific Irish context must be done cautiously, this report nonetheless serves as a means of identifying the economic issues that need consideration when making a decision with regard to mandatory pension policy

The full text of the Fitzpatrick Associates report is included as Appendix A

- 5.5 The Board recognises that additional economic analysis and projection of any proposed system would be of benefit. In particular, it should be noted that there are differences between the projections of ESRI modelling and the report by Fitzpatrick Associates about the effect of mandatory pensions on the national savings ratio.
- 5.6 Having considered international experience, and the differences in the prevailing Irish economic and social situation, the next chapters deal with particular mandatory pension systems which have potential for being introduced in Ireland, that is a first pillar, second pillar and a hybrid scheme as well as a soft mandatory option.

6. First pillar model

Overview

- 6.1 This chapter considers achieving the general objective of increased occupational pension provision by increasing the contributory State pension. It must be emphasised that this report is limited to considering pensions for those at work. Although the objective of the contributory and non-contributory State pension is to prevent poverty, this report only examines using the contributory State pension as a pragmatic means of increasing retirement income for those at work. Specific issues of income adequacy and relative poverty are outside its scope.

The EU Survey of Income and Living Conditions for 2004, published by the CSO in December 2005, identified the risk of poverty threshold in 2004 (i.e. 60% of median equivalised income per individual) as €185.51 p.w. Whether a person experiences poverty will depend on the degree to which income is below the threshold, the length of time spent on this income and the possession and use of other assets, e.g. family home. Social Welfare transfers reduce the risk of poverty for the 65+ age group from 87.4% to 27.1%, but older persons still had the highest risk of income poverty of all age groups in 2004.

- 6.2 The specific model examined in detail in this chapter is based on the assumption of an increase in the amount of the State pension from its current (2006) level of about 33% of GAIE in 2005 to 50%, or from the current amount of about €193 per week to about €300 in 2006 values. It is assumed in the costings that the pension is increased from its current level to the target level over a period of ten years, and its level maintained as a constant proportion of GAIE thereafter. It is also assumed that anyone receiving a contributory State pension will be entitled to the increased amount, irrespective of when they retired. Voluntary pension provision would continue as at present although some impact on the level of voluntary pension provision in light of the scale of the increase in the State Pension could be expected.

Current PRSI pensions

- 6.3 The retirement pensions provided under the current Social Welfare system are flat-rate payments, with eligibility based on achieving a certain level of social insurance contributions over a person's working life, or satisfying a means test. Payments based on social insurance contributions are financed by pay-related contributions made to the Social Insurance Fund by employers, employees and the self-employed, with any deficits being made up from general taxation. Social insurance pensions are independent of any other income or earnings a person might have. Recent initiatives to

extend social insurance coverage have resulted in growth in the proportion of pensions being paid on the basis of social insurance and it is projected that social insurance based payments will comprise some 86% of pensions in payment by 2016 (Actuarial Review of Social Welfare Pensions, 1997, by Irish Pensions Trust for the Department of Social, Community and Family Affairs).

Economic commentary

- 6.4 As part of this project, the ESRI were asked to assess the economic impact of this pension system using their HERMES economic model. Their full report is included as Appendix B.

The ESRI model is designed to project relatively small changes in economic circumstances over relatively short periods of time (i.e. up to five years). It cannot be used to provide projections over the 50 years covered by the Life Strategies calculations. Furthermore, it is likely to be less reliable in assessing pension systems, such as this one, where total contributions differ considerably from the current system. However, bearing in mind these caveats, it is nonetheless useful to consider the projected effects using the model.

Table 6.4.1 shows the projected effects of this pension system were it fully in place in five years, i.e. had the benefits and corresponding contributions reached their full amount. The table highlights the very significant impact on GDP, employment, earnings and disposable income of this option.

Table 6.4.1 – projected economic impact after 5 years

	% change
Real GDP	-3.3%
Real GNP	-0.9%
Employment	-3.1%
Unemployment Rate	+0.7%
Wages	-5.1%
Real Personal Disposable Income	-13.7%
Balance of Payments, % of GNP	+4.7%
Personal savings, % of disposable income	-2.5%

Costings

- 6.5 The tables below show the results of the projections of this system prepared by Life Strategies. These projections are on the NPR central basis. Details of this basis as well as projections on alternative bases are provided in Appendices D and E.

Table 6.5.1 compares the projected total benefits provided under this system with those projected under the current pension system. The benefits shown include all the occupational retirement pension benefits paid in each year including contributory State pension and private and public sector supplementary provision. All results are expressed as a percentage of GNP.

Table 6.5.1 – comparison of benefits, % of GNP

	2006	2016	2026	2036	2046	2056
Current	5.2%	6.7%	9.1%	11.8%	15.0%	16.6%
Increased SW	5.3%	8.4%	11.3%	14.4%	18.1%	19.9%

The projection of the current pension system shows the total amount of benefits increasing in the future as the numbers of people in retirement increase. The benefits shown for the increased Social Welfare pension scenario show an even greater increase, as a result of the increased State pension, though it should be borne in mind that the modelling assumes that the increase in State pensions will result in some reduction in supplementary provision – full details are provided in Appendix D. Because the increase is introduced gradually over 10 years, there is little difference between the 2006 figures for the two systems.

Based on a GNP total at the beginning of 2006 of €136 billion, the increase in 2016 between the total benefits under the current system and the model would be about €2.3 billion per annum in 2006 values.

The modelling assumes that a specific additional contribution is made in respect of the additional pensions. Table 6.5.2 compares the total pension contributions under the current system – that proportion of personal and employer PRSI contributions attributable to retirement pensions plus all contributions to supplementary pensions – with those under the mandatory system. This table shows these results as a percentage of GNP.

Table 6.5.2 – comparison of contributions, % of GNP

	2006	2016	2026	2036	2046	2056
Current	6.7%	7.0%	6.9%	6.8%	6.6%	6.6%
Increased SW	6.7%	8.6%	8.8%	8.7%	8.3%	8.3%

The total contributions under the current system show some increase as a result of a projected slight increase in the numbers in employment. This increase is gradually offset by the effect of the trend from defined benefit to defined contribution provision.

The projections for the alternative system show the effect from 2016 of the significant additional contributions needed to fund the increased State pension.

It is also useful to express the contribution costs as a percentage of workforce earnings as follows:

Table 6.5.3 – comparison of contributions, % of earnings

	2006	2016	2026	2036	2046	2056
Current	15.5%	15.5%	15.7%	15.7%	15.4%	15.4%
Increased SW	15.4%	19.2%	19.8%	20.2%	19.4%	19.4%

The projected amount of the additional contribution in 2016, expressed in 2006 values, is about €2.2 billion.

Table 6.5.4 compares the net Exchequer cost of all pensions, including an increased State pension, with the projected cost of the current system.

Table 6.5.4 – comparison of net Exchequer costs, % of GNP

	2006	2016	2026	2036	2046	2056
Current	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%
Increased SW	2.5%	5.6%	7.1%	7.3%	7.0%	7.1%

Note that Exchequer costs comprise a variety of costs including benefit payments, net contributions to the NPRF and notional cost of tax forgone, less additional tax income. An analysis of the composition of the cost is given in table 11 of Appendix E.

The effect on Exchequer costs of the increased State pension is at its greatest from 2016. At this point the full amount of the increased State pension is payable, but the amount accumulated in additional contributions is not yet significant. This is discussed further in section 6.7. The amount of the additional Exchequer cost in 2016, expressed in 2006 values, is about €2.3 billion.

The projections show very little additional Exchequer cost by 2056. This is a result of the pre-funding assumption discussed in section 6.9.

- 6.6 Any economic projections are uncertain, and increasingly so the longer the period of the projection. Whilst bearing this in mind, the Oversight Committee examined alternative projections which attempted to make allowance for the significant economic effects of this pension system. However, without further study, the basis for making such adjustments is not clear. For completeness, the results of the projections are summarised below and included in Appendix E, but the results in 6.5 should be seen as the primary projections of this project.

After consideration of the results of the ESRI models, it was decided to make adjustments to the assumed rates of growth in earnings and GNP and to the assumed numbers of those in employment. The approach adopted was as follows:

- The economic impacts after the first ten years were assumed to equal those modelled by ESRI assuming full impact after five years, and shown above in table 6.4.1. As this model assumes gradual introduction over 10 years, these effects were assumed to grow gradually over the introductory period.
- Because initial modelling showed clearly that the cost of an increased State pension would continue to grow over the period being modelled, it was assumed that the economic impact would continue to increase after the initial ten years. It was assumed that the adjustments after ten years would be doubled over the remaining 40 years.

The adjustments made to the projection bases are summarised in table 6.6.1:

Table 6.6.1 – assumed economic impact

First 10 years	GNP	99% in year 10
	Salary	95% in year 10
	Employment	97% in year 10
Following years	GNP	Reducing to 98% by year 50
	Salary	Reducing to 90% by year 50
	Employment	Reducing to 94% by year 50

The following table compares the projections in section 6.5 above with those on the adjusted basis,

Table 6.6.2 – effect of change in economic assumptions, % of GNP

	2006	2016	2026	2036	2046	2056
Projected benefits						
NPR basis	5.3%	8.4%	11.3%	14.4%	18.1%	19.9%
Adjusted basis	5.3%	8.5%	11.4%	14.5%	18.3%	20.2%
Projected contributions						
NPR basis	6.7%	8.6%	8.8%	8.7%	8.3%	8.3%
Adjusted basis	6.7%	8.3%	8.3%	8.2%	7.8%	7.7%
Projected Exchequer cost						
NPR basis	2.5%	5.6%	7.1%	7.3%	7.0%	7.1%
Adjusted basis	2.5%	5.5%	7.1%	7.2%	6.9%	7.1%

Coverage and adequacy

- 6.7 Table 4.2.1 above shows that in 2004, almost 30% of the working population earned less than twice the then State pension. We therefore assume that for this 30%, the State pension would therefore provide a retirement income of at least 50% of pre-retirement income. Were the State pension increased to 50% of GAIE, we estimate that the pension would then equal at least 50% of current earnings for at least 50% of the working population.

The remaining 50% of those working would need some supplementary provision in order to meet the NPPI replacement income target. Again, based on the 2004 data in table 4.2.1, we estimate that the actual figure would be 36%. Furthermore, it is possible that supplementary pension coverage rates among this group would fall as a result of additional contributions to fund the additional State pension.

- 6.8 The projections set out in the tables in section 6.5 above are on the central basis of projection as used in the NPR. Table 6.8.1 shows the effects of changing the projected rates of immigration.

Table 6.8.1 – change in migration, % of GNP

		2006	2016	2026	2036	2046	2056
Benefits	Lower	5.4%	8.9%	12.2%	15.8%	19.5%	21.1%
	Central	5.3%	8.4%	11.3%	14.4%	18.1%	19.9%
	High	5.2%	7.7%	9.9%	12.1%	14.8%	16.8%
Contributions	Lower	6.7%	8.5%	8.6%	8.6%	8.2%	8.2%
	Central	6.7%	8.6%	8.8%	8.7%	8.3%	8.3%
	High	6.7%	8.7%	8.8%	8.8%	8.5%	8.4%
Exchequer costs	Lower	2.6%	6.0%	7.8%	7.8%	7.5%	8.1%
	Central	2.5%	5.6%	7.1%	7.3%	7.0%	7.1%
	High	2.5%	5.1%	6.3%	6.1%	5.4%	5.2%

Funding

- 6.9 The modelling performed by Life Strategies assumed that specific additional contributions would be made in respect of the increase in State pension, and that these contributions would be invested, whether via an increased contribution to the NPRF or some similar mechanism. The fact of this modelling does not pre-empt any decisions about pre-funding, and it is relatively straightforward to estimate the effects of an unfunded increased pension from the detailed tables in Appendix E. However, even if the increase is not funded, the amount of the notional contributions that would be required is in itself valuable information about the long-term economic cost of the benefit.

The additional contribution was calculated to be the average contribution that each person at work would have to make throughout their working lifetime to provide sufficient funds to pay for the increased pension. This

contribution rate would be 9.2% of total income (i.e. not subject to any contribution ceiling) or about €4.8 billion per annum.

As the calculated contribution rate is a full working life rate, the contributions are not sufficient to pay for all of the increase for those who are already working, and there are obviously no contributions assumed in respect of those who have already retired. This element of the additional pension would have to be met through the budgetary process. Table 6.9.1 shows the unfunded additional pension paid each year, i.e. that for which no additional contributions have been made, as a percentage of GNP.

Table 6.9.1 – cost of unfunded increases, % of GNP

	2006	2016	2026	2036	2046	2056
Annual cost	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%

The amount of unfunded obligations in 2016, expressed in 2006 values, is about €2.2 billion. These costs are included in the totals in table 6.5.4.

For modelling purposes only, the additional contributions were assumed to be split equally between employers and employees, i.e. a contribution of 4.6% of income each. This assumption is not intended to pre-empt any discussion of how this cost should be met. There is a wide variety of possible approaches, including the following:

- (a) PRSI rates could be increased, with contributions being made by various combinations of employers, employees, the self-employed, and the Exchequer. This approach would be explicitly redistributive, in keeping with the current PRSI system: there would be no necessary link between the increase in individual contributions and the increase in benefits received. The cost of the current PRSI system is designed to be shared among employees, employers, self-employed and the Exchequer (to be recovered through taxation). If the increase in PRSI was not sufficient to meet the increased pension costs, the balance would have to be met through the Exchequer budgetary process.
- (b) If it were decided that the increased pension costs were not meant to be redistributive, then the additional contributions would have to be related to the additional benefit. However, as the increase in benefit would be very similar for all PRSI contributors, irrespective of their income, it follows that the increased contribution would have to be similar for all contributors, irrespective of their income. This is unlikely to be acceptable.
- (c) The contribution could be met through the Exchequer's budgetary process and recovered through taxation. This would be broadly

similar to the contributions made to the NPRF. The amount could be held in a fund similar to the NPRF, or in the NPRF itself (i.e. increase the payment from its current level of 1% of GNP each year).

Implementation issues

- 6.10 Many defined benefit pension schemes are integrated with the PRSI pension system, i.e. the benefits and usually the employee contributions are based on earnings less a deduction in respect of State pension. The effect of a significant increase in the amount of the State pension on those schemes would be to reduce the value and cost of the occupational scheme benefits payable, assuming that the total combined pension remains the same. This is to take account of the fact that the first “tranche” of a person’s earnings are “pensioned” by the PRSI system. Thus, in integrated schemes, a person’s total pension derives partly from their PRSI contributions and partly from their contributions to the occupational scheme. There are provisions in the Pensions Act, 1990 (as amended) which do not permit any reduction of pensions already in payment as a result of State pension increases. However, those members of integrated schemes who retired shortly after a State pension increase would see a reduction in the expected value of their scheme benefits, and this reduction would be proportionately greater for those on lower earnings. Were the State pension to increase by a considerable amount over a relatively short period, the question of extending some form of protection to members of the integrated occupational schemes who have not yet retired might arise.

Summary

- 6.11 Increasing retirement benefits by increasing the State pension is conceptually and administratively straightforward, and the cost depends on the amount of increase being considered. A summary of the most notable issues when considering this approach is as follows:
- 6.11.1 Any increase in the State pension will result in additional income for those who have already retired as well as for future pensioners. Redistribution will therefore occur between the current generation of workers and those who have already retired or who will retire shortly.
 - 6.11.2 An increase in the State pension will not result in any additional administrative cost, as it will not cost the Department of Social and Family Affairs any more to administer the increased pension payments.
 - 6.11.3 Unless the cost of the increase is fully met from additional contributions, the result of an increase will be that the Exchequer will be providing an additional benefit to all pensioners, irrespective

of whether they need it or not. This may be seen as a less efficient use of those resources compared to a more targeted approach and would give rise to significant opportunity costs in terms of overall public expenditure.

- 6.11.4 In order for a funded private-sector supplementary system to be successfully accepted, contributors must have trust in the financial system to provide a fair return for the contributions made. Equally, if people are obliged to make additional contributions in return for an increased State pension, they will want reassurance that the State will have the capacity to provide the return required for those retirement contributions to provide the promised level of the State pension. However, the State pension amount is set by the Government each year, and there are no long-term commitments about the level of benefit or any increase in the pension once paid, or even the age at which it will be paid or the qualification conditions. If additional contributions are to be charged, more definitive commitments may be thought necessary, which may have important implications in restricting budgetary flexibility going forward.
- 6.11.5 An increase in the level of State pension would result in a reduction in contributions and benefits from supplementary schemes which have a Social Welfare offset. There might also be a reduction in supplementary coverage resulting from the view that the higher State pension would provide adequate income.
- 6.11.6 Irrespective of how cost of the increased pension is met, the projected cost of providing the additional pension increases from 1.7% of GNP in 2016 to 4.8% of GNP in 2056, or, expressed in 2006 values, from about €2.3 billion to about €6.5 billion.

7. Supplementary model

Overview

- 7.1 This chapter examines a mandatory pension system which obliges qualifying earners to contribute to a funded supplementary system. Such systems are usually intended to provide contributors with retirement income above that provided by basic State provision. However, in some jurisdictions there may be no State provision, or such provision may be means-tested.
- 7.2 There is a wide variety possible in the specification of such a mandatory supplementary system. The most important parameters are
- (a) Eligibility – who is obliged to contribute to this system
 - (b) Eligible income – for those eligible, what proportion of their earned income is subject to the system
 - (c) Benefit type – whether the benefits provided are defined benefit or defined contribution
 - (d) Contribution amount – the percentage of eligible income payable to the system to meet the cost (irrespective of whether, or how, it is shared)

However, as well as the above primary parameters, there are other issues to be considered, and these are discussed in sections 7.13 to 7.29 below.

Description

- 7.3 The supplementary model chosen for examination was as follows:

(a)	Eligibility	All employees and self employed (but see discussion of harmonisation in section 7.27 below).
(b)	Eligible income	All earned income between 200% and 600% of the State pension (between approximately €20,000 and €60,000 as at June 2006)
(c)	Benefit type	Defined contribution
(d)	Contribution rate	15% of eligible income

- (e) Exchequer contribution 5% (included in the 15% above). This would be in lieu of any employer and employee PRSI relief and of any employee tax relief on contributions
- (f) Pre-retirement access None

Contributions would increase gradually from zero to the full amount in the ten years after introduction.

Voluntary pension provision would be allowed in addition to the mandatory contributions. However, a major issue is the extent that the introduction of mandatory supplementary pensions might be expected to impact on the existing level of voluntary supplementary provision.

7.4 The background to the chosen model was as follows:

7.4.1 One of the obvious eligibility questions is whether to limit inclusion to employees, or to include the self-employed. International experience shows that some jurisdictions limit mandatory schemes to employees, others include the self-employed. The rationale for leaving the self-employed out would be some may not be able to afford the contributions or that in many cases their business would provide for their retirement, and they therefore do not need the additional provision. However, it was decided to include them for a number of reasons:

- (a) 16% of the Irish work-force is classed as self-employed, which is too large a proportion to exclude if the objectives of a mandatory system are to be met. Also there is considerable movement in Ireland between the categories of “employed” and “self-employed” and significant “blurring at the edges”, particularly in such sectors as building and construction and agriculture and fishing. In such sectors, income, rather than formal status, is a more appropriate determination of the need for a pension.
- (b) The difference between being self-employed and being employed by one’s own company is not economically meaningful; again, income, rather than status, is the main determinant.
- (c) There are many self-employed whose business will not have accumulated enough realisable capital value by the time they retire to provide an adequate retirement income, e.g. professionals working from home, tradespeople or craftspeople.

- (d) If the self-employed were not included, this might act as an incentive to some employees or to their employers to inappropriately reclassify themselves as self-employed.
- (e) The decision to include the self-employed in the PRSI system, for pensions, was on foot of the National Pension Board's recommendations in 1988 to ensure the maximum possible consistency and equity between social insurance pension arrangements for employees and self-employed people.

Another eligibility criterion might be age, or year of birth. A minimum age could be allowed for inclusion to exempt those who had just joined the workforce: the scheme might be gradually introduced by applying it only to those born in or after a designated year. The Board does not favour a minimum age for a number of reasons:

- (i) Most people at young ages are likely to fall close to, or below, the minimum eligible income. The contributions by those who do not will enhance their likelihood of adequate retirement income.
- (ii) The Board is of the view that implementation based on year of birth would be too slow. There is value in gradual implementation rather than immediate full contributions: however, if this process is too drawn out, the system would suffer all the drawbacks of implementation and regulation without any significant retirement provision benefits.
- (iii) Were an employer contribution part of the design of a mandatory scheme, maximum or minimum ages could introduce distortions in the labour market.

7.4.2 The lower limit for eligible income was chosen by reference to the NPPI target of retirement income of 50% of pre-retirement income. Those earning less than twice the State pension will receive a retirement income of at least 50% if they are entitled to a full contributory pension. It can therefore be argued that it is not appropriate to include them in a mandatory supplementary system to provide them with additional retirement income, though they may choose to make voluntary additional provision, and it is important to facilitate this choice for the reasons set out below.

The progress of contributors' earnings throughout their working life will affect how adequate a pension they eventually have. Some people may have an income that increases in real terms through their working life; others may see their income reach a peak and then decline as they get older; others again may have an irregular income. If a contributor's income at retirement is lower in real terms than it typically

was during his or her working life, the retirement income will be high as a proportion of the earnings just before retirement. On the other hand, if earnings increase throughout the person's working life, the retirement income will be lower as a proportion of the earnings just before retirement, unless they start contributing even when their earnings are low.

- 7.4.3 The rationale for putting an upper income limit on eligible income is that there is less concern about replacing income at higher levels. Once income to a certain level has been replaced, it may be decided that replacing the remaining income should be left to voluntary provision.

There is no 'correct' value for an upper limit, and the definition of any upper limit raises the same issues of career averaging as for a lower limit. However, it is practical to specify the upper limit as a multiple of the lower limit, to maintain the real value of eligible income over time. If the upper limit is too close to the lower limit, the accumulated funds of contributors may be too low to justify the cost of the system. Based on the data in table 4.2.1, an upper limit of 600% of State pension, i.e. about €60,000 in 2006 values, is estimated to include all the earned income of 85% of taxpayers.

- 7.4.4 The most important element of the design of the scheme is whether it is defined benefit (DB), i.e. retirement benefits based on earnings, or defined contributions (DC), i.e. retirement benefits based on the accumulated value of contributions and accumulated investment returns. There are international examples of mandatory (or quasi-mandatory) schemes of both DB and DC.

A DB scheme removes much risk from the contributor – depending on the details of the scheme design, the contributor may not bear investment risk, salary inflation risk, longevity or interest rate risk. Under a DC scheme, all of these risks are usually borne by the contributors.

If the employer is to bear any of these risks, it follows that the employer contribution would have to be variable. If, for instance, the employer was to bear the investment risk, it would be necessary to increase employer contributions if investment returns were less than expected. The Board is not in favour of a variable employer contribution as a component of a mandatory scheme, and therefore any risks not borne by the employer must be borne by taxpayers through the Exchequer.

Were the Exchequer to underwrite the risks of a DB scheme, there would be a proportionately greater risk than is borne by the employer

in a company DB scheme: the employer almost always has the right to stop sponsoring the scheme and, in theory at least, refuse to meet any outstanding shortfall. This option would not be available to the State in a mandatory pension scheme.

Defined benefit schemes have also traditionally rewarded employees who spend most or all of their careers with the one employer. A mandatory system will need to be suitable for a mobile and atypical workforce as these are primarily the people who do not currently have pension provision. Defined contribution systems are better able to cater for such individuals. The individual nature of defined contribution systems can also be an important aspect of gaining acceptance from the participants. This is due to the fact that individual accounts are more tangible and often better understood by participants than accruing benefits.

Having considered the above issues, it was decided to examine a defined contribution scheme.

7.4.5 The contribution rate of 15% was chosen as a rate that, on typical assumptions, has a reasonable chance of providing a replacement income of at least 50% of average revalued pre-retirement income. A higher rate of contribution would obviously increase the likelihood of this 50% target being met. This topic is discussed further in section 7.5 below.

Under a defined contribution system, the retirement income of any individual contributor will depend on their contribution history and the rate of return earned during their membership of the scheme.

7.4.6 Any option to withdraw part of pension savings before retirement will reduce the adequacy of the retirement benefits, or require a compensating increase in the contribution rate to achieve the adequacy targets. As the usual reason for allowing pre-retirement withdrawals is to encourage participation, it was decided that this would not be appropriate for a mandatory system.

Contribution rate and benefit illustrations

- 7.5 The pension benefits received under a defined contribution system depend on a considerable number of factors, including:
- (a) The benefit being provided, including any allowance for cost of living increases and spouse's benefits
 - (b) The contributions made for and by the participant
 - (c) How long the contributor will be a member of the scheme

- (d) The investment returns – this in turn may depend on investment choices made
- (e) Charges
- (f) Investment guarantees, if any, and any associated charges
- (g) Investment returns and life expectancy after retirement.

Many of these factors cannot be predicted in advance, and therefore the contribution needed to secure a given level of investment cannot be calculated precisely: an estimate must be made, based on assumptions about all of the above factors.

This supplementary scheme is intended to provide a benefit of 50% of average eligible income. It is assumed that the funds accumulated in the scheme will be used to provide a retirement income that increases each year broadly in line with expected inflation, but that has no allowance for a spouse's benefit. Note that this pension is not comparable to the State pension for a number of reasons:

- (i) The State pension has increased at a rate equal to or above the increase in average earnings: however, there is no formal guarantee of any rate of increase.
- (ii) The State pension provides spouse's benefits in retirement, but only if the spouse has no entitlement to a pension in his or her own right.

Depending on the assumptions made, the appropriate contribution rate could be somewhere between 12% and about 18%. A rate of 15% has been calculated on the basis of a reasonable set of assumptions, and this is the rate proposed for this system. It should be noted that it may be appropriate to increase the contribution rate over time to keep place with improving life expectancy. No such increase has been proposed under this system.

Were this system implemented, and decisions taken about the investment and administration issues described in sections 7.15 to 7.25 below, it would be appropriate to review the contribution rate in the light of these decisions.

7.6 Although the benefits of a defined contribution system cannot be predicted with certainty, it is useful to consider a number of illustrated outcomes to understand the system.

The projections in the tables below estimate the retirement income that will be received by contributors to this system. This table assumes that a contribution rate of 15% of eligible income throughout a working lifetime will result in additional retirement income of 50% of eligible income. It is

important to repeat that these projections are illustrations and not predictions, and are not the only reasonable basis on which projections could be made.

Table 7.6.1 compares the benefits projected for contributors with different levels of earnings, on the assumption that their earnings are a constant percentage of the State pension. For clarity, it is assumed that the value of the State pension is €10,000 p.a. and therefore that the lower and upper limits of eligible income are respectively €20,000 and €60,000.

Table 7.6.1 – projected benefits

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Supplementary contributions (% of total earnings)	0.0%	9.0%	7.5%
Pension including State pension (replacement %)	€10,000 (50%)	€25,000 (50%)	€30,000 (37.5%)
Pension excluding State pension (replacement %)	€0 (0%)	€15,000 (30%)	€20,000 (25%)

Because the supplementary scheme is a defined contribution arrangement, there are many factors which may have an effect on the retirement income from the scheme. The tables below illustrate the effects of the most important.

Table 7.6.2 shows the effect on retirement income if the investment return is on average 0.5% higher or lower than assumed above.

Table 7.6.2 – change in investment return

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Assumed investment return +½%			
Pension including State pension (replacement %)	€10,000 (50%)	€26,800 (54%)	€32,300 (40%)
Pension excluding State pension (replacement %)	€0 (0%)	€16,800 (34%)	€22,300 (28%)
Assumed investment return -½%			
Pension including State pension (replacement %)	€10,000 (50%)	€23,500 (47%)	€28,000 (35%)
Pension excluding State pension (replacement %)	€0 (0%)	€13,500 (27%)	€18,000 (23%)

Table 7.6.3 shows the effect on retirement income if the cost of buying a pension at retirement is 10% higher or lower.

Table 7.6.3 – change in pension cost

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Assumed pension cost +10%			
Pension including State pension (replacement %)	€10,000 (50%)	€23,500 (47%)	€28,000 (35%)
Pension excluding State pension (replacement %)	€0 (0%)	€13,500 (27%)	€18,000 (23%)
Assumed pension cost -10%			
Pension including State pension (replacement %)	€10,000 (50%)	€26,500 (53%)	€32,000 (40%)
Pension excluding State pension (replacement %)	€0 (0%)	€16,500 (33%)	€22,000 (28%)

Economic aspects

- 7.7 As described in section 6.4, the ESRI were asked to assess the impact of this pension system using their HERMES economic model. Their full report is included as Appendix B.

Again, it must be remembered that the ESRI model is designed to project relatively small changes in economic circumstances over relatively short periods of time. It cannot be used to provide projections over the 50 years covered by the Life Strategies calculations. Furthermore, it is likely to be less reliable in assessing pension systems where total contributions differ considerably from the current system. Nonetheless, it is useful to consider the projected effects using the model.

Table 7.7.1 shows the projected effects of this pension system were it fully in place in five years, i.e. had the contributions reached their full amount. As can be seen from the table below although the economic impacts are not

as large as arise under the first option, there are significant effects on GDP, employment and earnings.

Table 7.7.1 – projected economic impact after 5 years

	% change
Real GDP	-1.4%
Real GNP	-0.3%
Employment	-1.2%
Unemployment Rate	+0.3%
Wages	-2.3%
Real Personal Disposable Income	-5.6%
Balance of Payments, % of GNP	+1.8%
Personal savings, % of disposable income	-1.0%

Costings

- 7.8 The tables below show the results of the projections of this system prepared by Life Strategies. Readers are reminded of the limitations of these projections, discussed in section 4.3. These projections are on the NPR central basis. Details of this basis as well as projections on alternative bases are provided in Appendices D and E.

Table 7.8.1 compares the total benefits provided under this system with those projected under the current pension system. The benefits shown include all the occupational retirement pension benefits paid in each year including contributory State pension and private and public sector supplementary provision. All results are expressed as a percentage of GNP.

Table 7.8.1 – comparison of benefits

	2006	2016	2026	2036	2046	2056
Current	5.2%	6.7%	9.1%	11.8%	15.0%	16.6%
Mandatory	5.2%	6.7%	9.2%	12.2%	16.1%	18.1%

The projection of the current pension system shows the total amount of benefits increasing in the future as the numbers of people in retirement

increase. The benefits shown under the mandatory system projection show a further increase in benefits as the accumulated funds gradually result in higher benefits, though it should be borne in mind that the modelling assumes that the mandatory pensions will result in some reduction in voluntary supplementary provision – full details are provided in Appendix D.

In 2006 values, the projected additional benefits in 2056 total about €2 billion.

Table 7.8.2 compares the total pensions contributions under the current system - that proportion of personal and employer PRSI contributions attributable to State retirement pensions plus all contributions to supplementary pensions - with all contributions under the mandatory system. This table shows these results as a percentage of GNP.

Table 7.8.2 – comparison of contributions, % of GNP

	2006	2016	2026	2036	2046	2056
Current	6.7%	7.0%	6.9%	6.8%	6.6%	6.6%
Mandatory	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%

The total contributions under the current system show some increase as a result of a projected slight increase in the numbers in employment. This increase is gradually offset by the effect of the trend from defined benefit to defined contribution provision as existing defined benefit schemes are wound down and substituted by defined contribution schemes in line with the assumptions for this option.

The projections for the alternative system show the effect from 2016 of the additional mandatory supplementary.

It is also useful to express the contribution costs as a percentage of workforce earnings as follows:

Table 7.8.3 – comparison of contributions, % of earnings

	2006	2016	2026	2036	2046	2056
Current	15.5%	15.5%	15.7%	15.7%	15.4%	15.4%
Mandatory	15.6%	17.7%	17.9%	17.5%	16.5%	16.5%

The amount of the additional contribution in 2016, expressed in 2006 values, is about €1.3 billion p.a.

Table 7.8.4 compares the Exchequer cost of the mandatory system with the projected cost of the current system as a percentage of GNP.

Table 7.8.4 – comparison of Exchequer costs, % of GNP

	2006	2016	2026	2036	2046	2056
Current	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%
Mandatory	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%

Note that Exchequer costs comprise a variety of costs including benefit payments, net contributions to the NPRF and notional cost of tax forgone, less additional tax income. An analysis of the composition of the cost is given in table 26 of Appendix E.

The increased cost to the Exchequer is mainly the result of the Exchequer contribution to the mandatory scheme. The tax foregone on investment return increases over time, but this is partially offset by tax from increased pension benefits. Expressed in 2006 values, the additional Exchequer cost in 2016 is projected to be €0.8 billion.

- 7.9 As for the other systems, the Oversight Committee examined alternative projections which attempted to make allowance for the significant economic effects of this pension system. However, without further study, the basis for making such adjustments is not clear. For completeness, the results of the projections are summarised below and included in Appendix E, but the results in 7.8 should be seen as the primary projections of this project.

After consideration of the results of the ESRI models, adjustments were made to the assumed rates of growth in earnings and GNP and to the assumed numbers of those in employment. The approach adopted was as follows:

- (a) The economic impacts after the first ten years were assumed to equal those modelled by the ESRI assuming full impact after five years and shown above in table 7.7.1. As this model assumes gradual introduction over 10 years, these effects were assumed to grow gradually over the introductory period.
- (b) Unlike the modelled increase in the State pension, the impact of this system does not increase at the same rate. It was therefore decided to make no further adjustments to the projection basis after ten years.

The adjustments made to the projection bases are summarised in table 7.9.1:

Table 7.9.1 – assumed economic impact

First 10 years	GNP	99.7% in year 10
	Salary	97.7% in year 10
	Employment	98.8% in year 10
Following years	GNP	As for year 10
	Salary	As for year 10
	Employment	As for year 10

The following table compares the projections in section 7.8 with those on the adjusted basis,

Table 7.9.2 – effect of change in economic assumptions, % of GNP

	2006	2016	2026	2036	2046	2056
Projected benefits						
NPR basis	5.2%	6.7%	9.2%	12.2%	16.1%	18.1%
Adjusted basis	5.2%	6.7%	9.2%	12.1%	16.1%	18.1%
Projected contributions						
NPR basis	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
Adjusted basis	6.8%	7.8%	7.7%	7.4%	7.0%	6.9%
Projected Exchequer cost						
NPR basis	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%
Adjusted basis	2.5%	4.4%	6.1%	6.5%	6.8%	7.3%

Coverage and adequacy

- 7.10 The comparison of coverage and adequacy under the current system and under this system is complex. Broadly speaking, this system will increase the number of people paying supplementary contributions (or having contributions paid on their behalf) and receiving benefits, but the average amount of these benefits will be smaller than the average benefit of those with pension provision under the current system.

The data in table 4.2.1 show that in 2004 about 70% were earning at least twice the amount of the contributory State pension. As the lower limit for

contributions for this system is twice the State pension, it can be estimated that the result will be that 70% will be making some contribution, howsoever small.

The average amount of benefits under this new system will be lower than under the current system. There are a number of different effects operating to produce this result:

- (a) There is a large increase in the number of people making supplementary pension contributions. The average income of these new contributors is typically less than the income of those contributing under the current voluntary system.
- (b) The supplementary benefit as a proportion of retirement earnings under the mandatory system is lower than the average benefit under the current system.
- (c) There may be some reduction of existing voluntary contribution as a result of the introduction of the mandatory system.

7.11 The projections in section 7.8 above are on the central basis of projection as used in the NPR. It is useful to compare the effect of changes in some of the assumptions.

Table 7.11.1 shows the effects of different migration assumptions:

Table 7.11.1 – change in migration, % of GNP

		2006	2016	2026	2036	2046	2056
Benefits	Lower	5.3%	7.1%	9.9%	13.3%	17.3%	19.1%
	Central	5.2%	6.7%	9.2%	12.2%	16.1%	18.1%
	High	5.1%	6.1%	8.0%	10.2%	13.3%	15.4%
Contributions	Lower	6.7%	7.8%	7.7%	7.4%	6.9%	6.8%
	Central	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
	High	6.8%	8.0%	8.0%	7.8%	7.4%	7.4%
Exchequer costs	Lower	2.6%	4.8%	6.7%	6.9%	7.1%	8.2%
	Central	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%
	High	2.5%	4.0%	5.5%	5.5%	5.5%	5.8%

Because the system being examined is a defined contribution system, the

rate of return assumed on investments is of considerable importance. Table 7.11.2 shows the effects of different investment return assumptions:

Table 7.11.2 – change in investment return, % of GNP

		2006	2016	2026	2036	2046	2056
Benefits	-0.5% p.a.	5.1%	6.6%	9.1%	11.9%	15.6%	17.5%
	Central	5.2%	6.7%	9.2%	12.2%	16.1%	18.1%
	+0.5% p.a.	5.2%	6.7%	9.3%	12.5%	16.7%	18.8%
Contributions	-0.5% p.a.	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
	Central	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
	+0.5% p.a.	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
Exchequer costs	-0.5% p.a.	2.5%	4.4%	6.0%	6.6%	7.1%	7.9%
	Central	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%
	+0.5% p.a.	2.5%	4.6%	6.3%	6.5%	6.3%	6.9%

More detailed projection results are shown in Appendix E.

Lower contribution

- 7.12 In addition to the projections described in section 7.8, projections were prepared assuming a 9% rather than a 15% contribution rate. This lower rate would obviously result in less adequate benefits for participants. On the other hand, contribution and Exchequer costs would be correspondingly lower.

Table 7.12.1 compares the total projected benefits provided under this system with those projected under the current pension system, i.e. the total pensions paid, including State retirement benefits. These projections are done on the NPR central basis. All results are expressed as a percentage of GNP.

Table 7.12.1 – comparison of benefits

	2006	2016	2026	2036	2046	2056
Current	5.2%	6.7%	9.1%	11.8%	15.0%	16.6%
Mandatory 15%	5.2%	6.7%	9.2%	12.1%	16.1%	18.1%
Mandatory 9%	5.2%	6.7%	9.1%	12.0%	15.7%	17.4%

The above table shows that there are no significant additional benefits under either mandatory system for about 20 years. This reflects both the low accrued funds in those years (especially given that the full contribution rate is not reached until 2016) and the relatively small numbers retiring. After 2026, both mandatory systems result in gradually increasing benefits.

Table 7.12.2 compares the total pension contributions under the current system (including personal and employer PRSI contributions) with those under the mandatory system. This table shows these results as a percentage of GNP.

Table 7.12.2 – comparison of contributions, % of GNP

	2006	2016	2026	2036	2046	2056
Current	6.7%	7.0%	6.9%	6.8%	6.6%	6.6%
Mandatory 15%	6.8%	8.0%	7.9%	7.6%	7.1%	7.1%
Mandatory 9%	6.7%	7.4%	7.3%	6.9%	6.4%	6.4%

Note that the modelling assumes that in 2006 there are very low mandatory contributions made.

These contribution costs are shown in table 7.12.3 as a percentage of workforce earnings:

Table 7.12.3 – comparison of contributions, % of earnings

	2006	2016	2026	2036	2046	2056
Current	15.5%	15.5%	15.7%	15.7%	15.4%	15.4%
Mandatory 15%	15.6%	18.0%	18.1%	17.7%	16.7%	16.7%
Mandatory 9%	15.5%	16.5%	16.5%	16.1%	14.9%	14.9%

The total contributions under the 9% mandatory model are projected to be lower than under the current model in 2046 and after – this is a result of the assumed effect of the mandatory system on voluntary, particularly defined contribution provision. The actual effect would depend very significantly on the harmonisation provisions discussed in section 7.27 below.

Table 7.12.4 compares the Exchequer cost of the two mandatory systems with the projected cost of the current system.

Table 7.12.4 – comparison of Exchequer costs, % of GNP

	2006	2016	2026	2036	2046	2056
Current	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%
Mandatory 15%	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%
Mandatory 9%	2.4%	4.2%	5.8%	6.2%	6.4%	7.1%

The primary difference in the Exchequer costs shown is the assumed Exchequer contribution to the mandatory system.

Finally, table 7.12.5 compares projected benefits for the 15% and 9% alternatives.

Table 7.12.5 – projected benefits

Earnings (in 2006 values)	€20,000		€50,000		€80,000	
	9%	15%	9%	15%	9%	15%
Supplementary contributions (% of total earnings)	0.0%	0.0%	5.4%	9.0%	4.5%	7.5%
Pension including State pension (replacement %)	€10,000 (50%)	€10,000 (50%)	€19,000 (38%)	€25,000 (50%)	€18,000 (22.5%)	€30,000 (37.5%)
Pension excluding State pension (replacement %)	€0 (0%)	€0 (0%)	€9,000 (18%)	€15,000 (30%)	€12,000 15%	€20,000 25%

Detailed design aspects

- 7.13 The first and most important decisions about a mandatory system are those about the amount of contribution to be paid and who will be included in the system. These primary decisions must be taken before any other aspects are dealt with. However, once these initial decisions are taken, there remains an enormous amount of detailed work to be done. This aspect of a mandatory system must not be ignored, and there is considerable scope for differences of opinion about implementation matters.

The design of a mandatory supplementary pension system is extremely complex, involving many detailed decisions about aspects of the new pension arrangements and their interaction with existing pension provision. A number of these issues will need further discussion and development before a detailed implementation recommendation can be made. The most significant questions are set out in the following sections and the issues which must be considered are described.

- (a) Division of contributions – pension contributions can be made by some or all of the following:
- the individual worker (whether employed or self-employed);
 - his or her employer, where relevant
 - the Exchequer – Exchequer contributions must then be recovered through the budgetary process (i.e. reduced public

expenditure in other areas or increased taxation or a possible increase in Government borrowing which must be serviced and repaid by future generations of taxpayers).

- (b) Investment of contributions – there are a range of approaches to the investment of contributions, including the question of guarantees.
- (c) Contribution collection and administration – membership of this system is likely to exceed 500,000, and it is clearly important that the collection and administration system be robust, reliable and low-cost.
- (d) Harmonisation with existing provision – it is the strong view of the Board that any mandatory system should allow the continuation of existing adequate provision. However, it is recognised that the harmonisation of the new mandatory system with existing provision is probably the most complex aspect of the design and is likely to have significant effects on existing voluntary pension provision and other forms of discretionary savings.

Division of contributions

- 7.14 Once the appropriate level of total contribution has been settled, it is necessary to decide how payment should be shared. Contributions can be made by some or all of the scheme members; by their employers, where relevant; and by the Exchequer. Any contributions by the Exchequer must then be recovered through the budgetary system, i.e. from reductions in public expenditure in other areas, increased borrowing and/or from increased taxation. This could be through increased PRSI rates or a special levy, or some combination of these.

There is a wide range of views on an appropriate division of contributions. The following includes in no particular order the points and views noted in the preparation of this report,

- (a) One view is that pensions are deferred pay and that employers have a responsibility to make pension contributions on behalf of their employees. Linked to this is the view that the cost of adequate retirement income is too great to be funded by employees alone. There is also a belief that if pension contributions were mandatory for all levels, this would prevent some employer gaining competitive advantage over others at the expense of employee future incomes.
- (b) Another view is that mandatory employer pension contributions will endanger Ireland's international competitiveness and therefore should not be imposed. It is an aspect of this point of view that pension provision depends on economic growth and success, and that if this growth is endangered, it will not be practical to provide adequate pensions in any case. Of particular concern in this view is the effect of

mandatory pension contributions on the attractiveness of Ireland as an investment location.

- (c) It has been suggested that part of the direct cost of a mandatory pension system should be met by Exchequer, even though this will have to be recovered elsewhere in the budgetary process, e.g. by increased taxation or borrowing. This Exchequer contribution could either be by means of tax relief, by a flat rate tax credit or a transparent direct contribution, as was done for SSIsAs. This approach implies in the context of Ireland's obligations under the Stability and Growth Pact that support for pensions would be prioritised over other policy objectives in terms of public expenditure and taxation.
- (d) One further view is that in the longer term, the division between employer and employee contributions will have the same economic effect, through the operation of supply and demand on labour and wages. In this view, although there may well be short-term distortions as the scheme is introduced, in the longer term, employers will reflect their pension costs in the wages they offer. Equally, mandatory employee contributions will also affect the labour market in regard to the wages they demand and the supply of labour.
- (e) It has been suggested that a mandatory system could be introduced as part of a national wage agreement. Using this approach, agreements on pay increases would also include agreement on increased contributions to a mandatory system. This would allow the total contribution to be increased gradually, may avoid any reduction in real earnings, and might remove disagreement about whether contributions were employer or employee. However, as with all of these views, there is not agreement about this suggestion. Furthermore, not all employees are covered by national wage agreements.

A number of practical issues must be borne in mind when making any decision about the division of contributions

- (i) If they are to have the same retirement income expectations, the self-employed will have to pay both employer and employee contributions. The alternatives would be for a higher Exchequer contribution for the self-employed than for those in employment, but this might give rise to significant distortions in the labour market.
- (ii) There is support by some Board members for a flat-rate Exchequer support for mandatory pensions rather than tax relief. A flat-rate support would provide the same proportionate support to all contributors, whereas support through tax relief provides more benefit to higher rate tax-payers. However, if the structure of the Exchequer

support for a mandatory scheme differs from that for existing pension arrangements, anomalies would arise, and it is likely that some existing provision would be affected. In particular, were contributions to the mandatory system matched by an Exchequer contribution, they would appear to contributors to be more expensive than the same nominal contribution to an occupational pension scheme receiving tax relief. Thus for instance, a 5% contribution to an occupational scheme will cost the contributor less than 5% when the effect of tax relief is taken into account. On the other hand, if the Exchequer support is via an additional contribution to the pension, the cost to the contributor will be 5% regardless. Opportunities for arbitrage or simple misunderstanding between the alternatives must be avoided, and this may involve some reconsideration of the form of Exchequer support for existing pensions.

Investment

7.15 This section discusses the alternative approaches that could be taken to the investment of contributions. In any final decision, there are a number of issues which are likely to be taken into account:

- (a) Those most likely to contribute to a mandatory system are those with no existing pension provision. These are therefore likely to be younger and less well-off than the average worker, and so may not have much experience or knowledge of investment.
- (b) Where a mandatory system includes any investment choice, it must take account of the level of investment understanding among those faced with the choices. This should influence the choices offered and how they are communicated. There will also be a question of whether financial advice will be needed, and if so, how it will be financed.
- (c) Ireland has a well-developed pension and investment sector, and existing expertise and structures should be used as far as possible.
- (d) All of the mandatory systems considered by the Board provide that, as far as possible, existing arrangements be encouraged to continue, and that contributors to the mandatory system have the option of making additional provision above their mandatory contributions. The investment options under the mandatory scheme must not therefore make existing provision uncompetitive. However, the assumptions underlying the Board's analysis are that the introduction of a mandatory supplementary pension regime would have a significant impact on the future level of voluntary supplementary provision.
- (e) The question of the role of the State, if any, in taking on investment risk on behalf of contributors must also be considered.

7.16 There are three fundamental approaches that could be adopted for the investment returns on a mandatory pension scheme:

- X. The State could accept contributions, and declare an investment return each year, which would not necessarily directly reflect the return on the assets.
- Y. The State could take responsibility for the investment of the contributions by outsourcing investment management to one or a number of investment managers (e.g. through the NTMA) but allocate the investment returns directly to savers.
- Z. Investment could be wholly done by competing private sector providers.

In practice, the differences between these approaches might not be so clear-cut:

- Under Y, savers might be allowed to opt out to an investment manager of their choice. Y then becomes quite similar to Z.
- The State might provide some form of investment guarantee under Y. If the State chooses to charge for this guarantee by deducting some of the investment return in good years, this might result in an approach very similar to that described under X.

The approach described under X above would involve some redistribution from those whose contributions yielded higher investment returns to those who had lower returns. This redistribution is intended only to smooth investment returns. It is different to the redistribution undertaken in a first pillar system, whose purpose is to redistribute income from the better off to the less well-off. The mandatory pension system being described in this chapter is not intended to achieve any such redistributions.

7.17 A question that is frequently raised about mandatory pension schemes is, given the State is obliging contributors to invest, whether it should provide guarantees of investment return. If such investment guarantees are provided, a related question is whether they should be charged for.

There is no well known international example of a mandatory funded defined contribution arrangement (i.e. where the contributions are explicitly invested by the State or by the private sector) which provides investment guarantees, although the Chilean system guarantees a minimum income, which has a similar effect. Nonetheless, the view has been expressed that a guarantee, either of investment performance or minimum retirement income, must be provided in order to make a mandatory scheme acceptable.

The attraction of guarantees are clearly that they increase the acceptability of pension saving. They also reduce the volatility and unpredictability of retirement benefits and reduce variations among the retirement benefits of similar contributors. Guarantees do present challenges of cost and design. It can be difficult to calculate an appropriate long-term charge, and such a cost may in any case be higher than what the public would expect, particularly in times of good investment returns. The appropriate form of guarantee may also be problematic: the public might demand short term insurance against market fluctuations whereas arguably what they most need is a long-term floor to the value of their saving.

There are a number of possible approaches to providing investment guarantees. The most obvious are

- (a) The Exchequer may guarantee minimum returns without charging, or for a fixed charge
- (b) The Exchequer may provide a guarantee but seek to reinsure that guarantee in the market
- (c) Private sector investment managers may be obliged to provide a specified guarantee to be allowed to participate in the pension system
- (d) Private sector investment managers may be allowed to offer guarantees in a competitive market

Clearly there are potential drawbacks to any approach adopted.

If the State was willing to offer investment guarantees, it is unlikely that the State will be do so at no cost. Should the Exchequer provides a guarantee and charge explicitly for it (as distinct from an essentially arbitrary investment return allocation possible under approach X in 7.16) it would be difficult to arrive at a satisfactory price. In years of good investment returns, the Exchequer may come under pressure to reduce what would be seen as overcharging: in years of poor investment returns, the cost of the guarantee may be considerable and could exceed the total charges to date. The State would also have to decide whether to explicitly invest the risk charges, and if so, would have to identify the most suitable assets.

It would not make sense to provide a State guarantee without placing restrictions on contributors' investment choice, or even disallowing choice altogether. Without such limits, savers would be tempted to adopt high risk strategies and rely on the guarantee if funds underperformed, i.e. significant moral hazard would arise.

If the State was willing to provide investment guarantees, the State could consider reinsuring any guarantee it provided. However, the amount of

funds under guarantee might be a problem, and the price of the guarantee could fluctuate considerably over time.

If guarantees are to be offered competitively by investment managers, there would be a need to ensure that the terms of the guarantee are communicated and understood clearly by contributors.

- 7.18 In a mandatory system where the investment management is provided only by private sector managers, a prescribed maximum level of charges could be imposed. The rationale for such a limit could be that contributors may not be sufficiently aware of the charges imposed. An additional or alternative rationale might be that without a limit, competition between providers may not by itself reduce charges to what is seen to be a reasonable level. In the absence of a prescribed maximum, margins might be used for marketing rather than to reduce participant charges.

The appropriate level of these charges is difficult to agree – note the debate in the U.K. where a maximum charge of 0.3% per annum proposed by the Turner Commission was disputed by parts of the pension and investment management industries. The issue of maximum charges becomes more complicated if managers are allowed (or expected) to offer guarantees: the charge for such guarantees should be separated from the basic charges, but it may be difficult to prevent cross-subsidy.

The alternative is to allow the charges to be set competitively but to ensure that they are clearly communicated. Were this approach adopted, it would be worth considering limits to the forms in which charges could be made (as was done for PRSAs) to ensure that charges are directly comparable and can be easily understood.

- 7.19 Many if not most contributors to a mandatory system would have little or no knowledge of investment. It is therefore recommended that, if there is to be an investment choice offered, a default investment strategy must be provided, to a specification set out in regulation.

The difficulties and risks of a default strategy must nonetheless be recognised. Experience with PRSAs has shown how significant the detailed wording of the regulation is in determining the strategy. It is particularly important to avoid herd behaviour whereby all default strategies tend to cluster together rather than offering genuine choice. It is possible that a high proportion of investors would use a default investment strategy. It will be important that they realise that the default strategy is designed to be a reasonable and appropriate investment, but it is not risk free or the 'best' strategy available.

Implementation

7.20 In deciding on the most appropriate means of managing a mandatory system, the most important considerations are:

- keeping administrative costs low,
- devising a collection system that is simple and transparent to maximise compliance and contributor understanding, and
- minimising operational and set-up risks.

A number of different models for gathering contributions are considered below, including:

- (a) the existing PRSI system,
- (b) individual savings accounts held within a single national scheme,
- (c) individual accounts held at one of a number of competing (non-profit) bodies,
- (d) individual accounts held at a number of competing financial institutions.

There is clearly a connection between the collection and administration system and choice of the investment model described above. In particular, if it were decided not to use private sector investment, only the first of the above four options would be relevant.

Existing PRSI System

7.21 All employees and self-employed who earn more than the minimum income for the mandatory system are already included in the PRSI system, as are their employers. PRSI contributions are collected by the Revenue on an agency basis for the Department of Social and Family Affairs. It makes sense to consider whether the PRSI system could be used to collect mandatory supplementary contributions in addition to contributions already being collected for State pensions.

There are a number of potential advantages to collecting mandatory/quasi-mandatory pension contributions through the PRSI system including:

- (a) minimisation of operational and set-up risks as a collection system with extensive coverage is already in place,

- (b) the existing system is simple and transparent, with contributions clearly outlined in payslips, and is accepted by employers and employees,
- (c) the administrative cost is likely to be low,
- (d) payments are easily monitored through the existing arrangements, including annual P60 statements, facilitating monitoring of compliance levels,
- (e) the system is likely to be more flexible than alternatives in dealing with variations in the number of contributors to the mandatory scheme.

The main disadvantages of using the existing PRSI system are:

- (i) the potential complexities it would add to the current system and the operational risk in making the necessary changes,
- (ii) the need for additional reporting functionality and speed,
- (iii) uncertainties about whether the system could cope with multiple investment choices and optional contribution levels.

It is clear that considerable further investigation would be needed before deciding whether a modification of the PRSI system would be a practical option.

Individual savings accounts held within a single national scheme

7.22 An alternative to the PRSI system is to set up a national centralised system for collecting contributions.

It is proposed that the U.K.'s National Pensions Savings Scheme (NPSS) will collect contributions through a central collection agency. Individual accounts will be held within a single national scheme which will provide a range of different investment funds, purchase fund management services at a wholesale level and invest each individual's account in the different funds according to the individual's choice.

Neither individuals nor employers would choose between providers of administration services. All members hold their account in a single national scheme and the scheme would purchase outsourced operational services from competing service providers. The central system chooses between competitive providers of operational services who would bid for the contract to run the system.

Compared to collection by competing agencies or financial institutions, this approach offers potential advantages in terms of economies of scale, fee

minimisation etc. The potential drawbacks of this system include the limitation of consumer choice, the operational risks associated with developing a new clearing house system from scratch, the time delays implicit in setting up a new system and the start-up costs.

Competing administration providers

- 7.23 An alternative to a central collection agency and administrator would be to invite different administration providers to compete, possibly on a non-profit basis. Such agencies might for instance be set up by trade unions, employer groups or professional bodies. Employers or possibly contributors would choose to which of the different providers an individual was allocated, but regulation would ensure a minimum level of investment choice and contributor information from all providers.

This model can be seen as halfway between that of a central collection agency and the use of existing financial institutions. It seeks to avoid the operational risk of setting up one single collection agency and to use competition as a means of fostering service standards. It also seeks to benefit from economies of scale through a small number of providers managing relatively large numbers of contributors. Although this model is usually assumed to comprise non-profit providers, there does not seem to be any overriding reason to exclude for-profit operators, given regulation to ensure an acceptable level of service and perhaps price.

Financial institutions

- 7.24 A further alternative would be a system in which eligible participants would be enrolled into pension savings accounts held at different insurance companies, banks or other appropriate financial institutions. Rather than a central clearing house mechanism choosing the service provider, the individual (or possibly their employer) would make the necessary choices.

A specific proposal would be to require enrolment in a PRSA where an employee or self-employed has no alternative pension provision. Existing legislation requires employers to provide access to a Standard PRSA, including contribution deduction, for 'excluded employees' – broadly those employees with no or limited access to an occupational scheme. It would not be complex to turn this access obligation into a mandatory scheme.

The significant advantage of this approach is the lack of operational risk: systems and arrangements are already in place, and there is a well developed and competitive market in place. Potential drawbacks are:

- (a) If the State is taking responsibility for investment, this model may not be practical,

- (b) Individual and small group pension arrangements may not be cost effective for a mandatory scheme, particularly for small contributions,
- (c) A larger number of potential providers may result in additional administration obligations and costs for employers,
- (d) There would be significant challenges in monitoring compliance if there were a large number of financial institutions providing mandatory pensions.

Compliance and enforcement

7.25 Mandatory pensions would be unpopular with a large number of the people obliged to contribute. It will therefore be necessary to check that those eligible (and possibly their employers, depending on the scheme implemented) are making the correct contributions and that these are being passed on in good time to the appropriate place: the size of this regulatory challenge must not be minimised or underestimated.

Compliance can be fostered through supervision – checking on people, imposing penalties if they are not making or forwarding the necessary contributions – and/or incentives. An example of the latter approach is the Australian system where people are subject to a punitive tax charge unless they can demonstrate that they have made the required pension contribution.

The Board's experience of supervising the employer access provisions for PRSAs has been a low level of initial compliance and a considerable amount of work needed to increase this. Given that the PRSA access imposes no financial obligations and in many cases little or no administrative obligation, it must be expected that voluntary compliance with a mandatory supplementary system may not be universal.

Other aspects of the scheme that will affect the effort needed to secure compliance are

- (a) The smaller the number of agencies or institutions collecting contributions, the simpler it will be to ensure compliance.
- (b) The design of the rules governing harmonisation with existing pension arrangements will determine much of the complexity of the compliance effort. This will be particularly true for self-employed and personal pension provision, where contributions are often made once a year rather than as a regular percentage of income.
- (c) Penalties for non-compliance should be civil rather than legal. It would not be practical or economic to prosecute every case of non-compliance.

No specific recommendations can be made on compliance and enforcement until many of the details of a mandatory system are settled. However, in making those decisions, the practicalities of supervision must be borne in mind and must be among the criteria on which the final decision is based. All of the models would require some authority to oversee the collection and allocation of contributions, and the administration and communication of entitlements.

Summary of administration issues

- 7.26 It is clear from the above that the detailed administrative and compliance issues of a mandatory system are extremely complex and that a great deal of further work is needed before any decisions can be made about these matters.

In designing a process for collection of mandatory or quasi-mandatory pension contributions, it is essential to ensure that:

- (a) the system is transparent and easily understood, to maximise acceptability and compliance,
- (b) costs are minimised for all stakeholders – employees, employers and the Exchequer: this is especially important as there may be relatively large numbers of small contributions,
- (c) operational and implementation risks are minimised. As far as possible, existing structure and practices should be used, as far as this is economic and consistent with the design of the mandatory system chosen,
- (d) sufficient account is taken of the compliance and supervision requirements and costs.

Harmonisation

- 7.27 It is the Board's view that the introduction of any mandatory pension system should have as little impact as possible on existing good pension provision. The priority for a mandatory system is to ensure that those individuals who are not currently making pension provision are required to do so, within the objectives of the system. Those who are currently making adequate provision should therefore have the facility to opt-out of the mandatory system. It is therefore an important part of the design of a mandatory system to define how the new requirements will be harmonised with this existing pension provision.

The objective of harmonisation is to ensure that a mandatory system interferes as little as possible with existing good pension provision. It may be the case that existing provision will decline (whether in coverage or

adequacy of provision) after the introduction of a mandatory system, particularly in relation to new entrants. This may happen as a result of behavioural change on the part of employers and/or potential contributors, however as much as possible it should not be as a result of any additional burden or disincentive introduced as a result of the mandatory system. All incentives need to be very carefully assessed to ensure that they do not adversely affect current provision.

Harmonisation provisions have the potential to be very complex, difficult to design and implement effectively and could comprise the greater part of the design and specification of a mandatory system. It is clearly not practical within the scope of this report to define these provisions in detail but set out below is an overview of the approach that might be taken.

Defined contribution schemes

Any employee who is a member of a scheme where the total contribution being paid by or on his or her behalf is at least equal to that which would be paid into a mandatory scheme would be exempted from the mandatory scheme. In most cases this should be relatively straightforward. However there are a number of issues that will need to be dealt with:

- (a) The comparison of contributions will not always be straightforward. Contributions to an occupational scheme may be calculated on total earnings, on earnings less an allowance for State pension, and may or may not take account of fluctuating earnings such as overtime or bonuses. This is unlikely to be the same as the eligible contributions for the mandatory scheme. In practice, it will probably only be possible to determine at the end of a year whether or not the contributions to the mandatory scheme would have been higher.
- (b) In making the contribution comparison, it may be necessary to factor in the effect of applying different types of tax relief, particularly if the mandatory scheme has a partially matching Exchequer contribution rather than tax relief.
- (c) It must be considered whether the comparison should be based purely on the level of contributions or should also factor in the effect of charges. This will be particularly relevant where the occupational scheme is a condition of employment.

Defined benefit schemes

There is a perception that membership of any DB scheme is better than any other type of pension arrangement. However, this is not necessarily true as it depends on the nature of the benefits provided by the DB scheme and the level of contributions paid to the other arrangement. In order to establish whether an individual is better off in a DB scheme it would be necessary to

calculate the benefit entitlements under the scheme and compare these to the benefit entitlements under the mandatory scheme. However as both calculations would be based on unknown circumstances and would have to rely heavily on assumptions the comparison may be of limited value.

It may not be enough to use membership of any DB scheme to automatically exclude an individual from the mandatory system. There are some DB schemes that may provide benefits that are not as good as could be provided under the mandatory system. In particular there are some industry wide schemes that provide benefits based on notional salaries which could potentially result in relatively low replacement rates. It is therefore necessary to apply either a benefit test or a contribution test to a DB scheme in order to decide if membership justifies exemption from the mandatory scheme.

A contribution test would exempt membership from a scheme where contributions by or on behalf of a member at least equalled what would be paid to the mandatory scheme. Although this is a straightforward idea, there are considerable practical problems:

- (i) By their nature, the contributions paid to a DB scheme fluctuate from year to year and this should be taken into account, possibly through an averaging mechanism. For example, an individual should not have to join a mandatory scheme because the DB scheme is in surplus and the employer is on a contribution holiday.
- (ii) On the other hand, part of the contribution being paid may be to clear a deficit. It would not make sense to include such contributions in a contribution comparison.
- (iii) There is no employer contribution to public service unfunded schemes: the costs to the State as employer arise when pensions are being paid, and not during the working lifetime of the public servants. However, it is clear that most if not all of these schemes are high quality and that a simple contributions test is not appropriate for them.
- (iv) Contributions to a DB scheme are not allocated to any particular member, but are pooled to meet obligations as they arise. If an underfunded scheme is wound up, under the provisions of the Pensions Act, 1990, the first priority among member benefits is for pensioners in payment. The practical effect of this is that contributions by all members are first used for such pensioners. It is therefore difficult to make a direct comparison with a defined contribution scheme where each person's contributions are ring-fenced.

The alternative to a contribution test is a benefits test: if the actuarial value on a prescribed basis of the benefits of the scheme is greater than the

mandatory scheme, the scheme members are exempted from the mandatory scheme membership. This approach has a number of advantages over a contributions test. However, there are nonetheless some drawbacks and complexities:

1. A benefits test would be an additional compliance burden on DB schemes.
2. In some schemes, higher earners might pass the test, but those on lower earnings might not.
3. There is no obvious means of dealing with an underfunded scheme. Although the benefits may be more valuable than the mandatory scheme alternative, the fact that the scheme is underfunded clearly lessens to some, probably unquantifiable, extent the probability of receiving those benefits. It seems appropriate to make some adjustment – it would make no sense to place a high value on scheme benefits that are unlikely to be paid – but it would be unsatisfactory if the exemption status changed from year to year depending on the funding position of a scheme.

A benefits test is more satisfactory than a contributions test, but there are some aspects which would need to be considered further. It must be made clear that the eventual solution cannot be perfect in all cases except at the cost of disproportionate complexity, which would in itself be a significant disincentive to DB provision. The eventual solution must be pragmatic and sacrifice some measure of precision in favour of practicality.

One such pragmatic approach would be to provide an automatic exclusion to any member of a DB scheme. It would need to be made clear that there will be some anomalies created by adopting this approach. However it is the one least likely to provide any further disincentive to the continuation of such schemes.

Ultimately, the degree of complexity, including difficult legal and industrial relations issues, in harmonising and transitioning from existing pension provision to any mandatory system should not be underestimated in considering the practicality of the proposition.

PRSAs and Retirement Annuity Contracts

The issues with both PRSAs and Retirement Annuity Contracts (RACs or personal pensions) are largely the same as with defined contribution arrangements. However, there are some additional issues specific to these personal contracts:

- A. It is common for individuals to have a number of such contracts, some of which may be regular contributions, and some of which may be

single or optional contributions. This obviously will make the mandatory test more complicated.

- B. It is likely that the comparison must be done at the end of the tax-year.
- C. It may be possible to perform a once-off adequacy check for members of an occupational scheme, and all that would be required thereafter would be confirmation of continuing membership. However, the test will have to be performed annually for those not members of such schemes.
- D. It should be considered whether a comparison is made purely on a year-by-year basis or whether funds accumulated by an individual should be taken into account. For example, if a self-employed individual has been paying 20% of income into a personal pension for a number of years and then decided to pay nothing in one year, it might not be thought reasonable that they should have to make a contribution to the mandatory system. On the other hand, such a cumulative test may add considerable complexity.

7.28 Whatever harmonisation rules are adopted, the existence of a mandatory scheme may in any case indirectly affect other pension provision. Among the possible impacts may be:

- (a) If a mandatory system provides a guarantee there may be pressure on private schemes to do so as well. Depending on the terms of the guarantee, this may not be possible or economic.
- (b) An acceptable mandatory scheme is likely to have low charges, whether because of competition or direct regulation. This may put pressure on alternative pension provision.
- (c) There will be an unavoidable compliance obligation on occupational schemes even if their members are exempted from the mandatory scheme. This might cause some marginal schemes to cease.
- (d) If there are differences in the structure of Exchequer support between the mandatory scheme and other occupational and individual provision, contributors may attempt to arbitrage between them.

Pension benefits

7.29 The question of the form of pension benefits from a mandatory system is a practical issue which must be considered. Irrespective of the specific eligible income rules for a mandatory scheme, there will be a large number of small supplementary pension funds at retirement:

- It will take 40 years for a mandatory system to be mature, i.e. for those retiring to have been in the scheme for almost all of their working life. The retirement funds of those who retire before that time will be correspondingly smaller.
- Irrespective of where the minimum eligible income level is set, there will be those who are only slightly above it and who therefore are making only small contributions. Even after a full working lifetime of contributions, there will be those who have only accumulated relatively small funds because of the amount of their eligible income.

It may well not be practical to require people with small funds to buy annuities. Putting to one side the unpopularity of annuities, there are questions about whether it will be economic or even possible to buy annuities for relatively small amounts. There is also the obvious anomaly that those with personal pensions or PRSAs are allowed to invest in Approved Retirement Funds (ARFs) at retirement, and it would not help the acceptability of a mandatory scheme if contributors were always obliged to buy annuities at retirement.

The question of annuity purchase is wider than the question of mandatory pensions, and it is not within the scope of this report to make a recommendation. However, some possible solutions which could be explored are:

- (a) Allowing those with accumulated funds of less than a certain amount to take their benefits as cash, though this might not be consistent with the goal of retirement income provision.
- (b) Allowing contributors access to ARFs, though the emergence of large numbers from a mandatory scheme might increase the pressure to deal with the significant inconsistencies in the current ARF access rules. There would also be a need for financial advice to ensure that contributors understood the investment and longevity risks.
- (c) Allowing those with funds of less than a certain amount to use their funds to increase their State pension entitlement, though there are differing views about this option.

Summary

7.30 It is clear from the preceding sections that the creation of a mandatory supplementary system is an extremely complex and challenging project. It is nonetheless useful to highlight the most important aspects that are likely to determine a decision about whether or not to opt for such a system:

- 7.30.1 A mandatory supplementary system as described in this chapter can be designed to achieve the NPPI coverage targets, and, within

the constraints of the model chosen, may achieve the NPPI income adequacy targets. However, such a model takes a full working lifetime to provide full benefits.

7.30.2 This model does not provide, and is not designed to provide, any additional benefits to those who have already retired, or who will retire shortly. If the present State pension is believed to be inadequate for this group, additional provision must be made.

7.30.3 A mandatory supplementary system will require significant new structures to be created, including:

- Contribution collection and supervision mechanisms
- Compliance monitoring
- Harmonisation structures for existing schemes.

It may be difficult to recover the costs of these structures from contributors. Furthermore, depending on the model chosen, they may involve some element of operational risk. It has to be decided whether the resulting eventual improvement in contributors' retirement justifies this effort.

7.30.4 If existing pension provision is to be protected and encouraged to continue, it is inevitable that relatively complex harmonisation rules will be needed. In any event the introduction of mandatory supplementary pension provision would be expected to have a significant impact on the current level of voluntary supplementary provision.

7.30.5 A fundamental decision is to what extent contributors will be exposed to market investment and its resulting volatility: most Board members believe that the alternative may be some form of State guarantee or State investment management.

8. Soft mandatory models

Overview

- 8.1 There is a great deal of support in Ireland and worldwide for soft mandatory or automatic enrolment pension systems. A soft mandatory system can be defined as a pension system where eligible workers are obliged to join, but they have the right to opt out and cease contributing if they wish.

The rationale for soft mandatory systems is the belief that many of those in work who do not have supplementary pension provision have not made a clear decision against such provision. Instead, in many cases, they have not got around to it, or always meant to do it shortly, or never completed the paperwork. It is believed that many of these people, if they were automatically enrolled in a pension arrangement and contributions were automatically deducted from pay, would not opt out of their pension scheme but would continue to make contributions.

It is planned to introduce compulsory soft mandatory savings schemes in New Zealand (the 'Kiwisaver') and in the U.K. (the NPSS). An outline of these proposals is provided in Appendix C.

This chapter considers a specific soft mandatory system, and looks at the issues raised both by this proposal and by such systems in general.

- 8.2 Many of the design and implementation decisions about a soft mandatory scheme are similar to those discussed in chapter 7 for a mandatory supplementary system, though with some significant differences. The design decisions are as follows:
- (a) Eligibility – i.e. who is obliged to join the scheme and for what period before being allowed to opt out.
 - (b) Contribution rate – what initial rate of contribution would be required, and who would pay
 - (c) Exchequer contribution
 - (d) Opt-out conditions
 - (e) Pre-retirement access to funds

Description

- 8.3 The model chosen for consideration was as follows:

(a)	Eligibility	All those beginning employment on or after the date of introduction of the scheme who do not become members of occupational schemes immediately on beginning employment. There would be no obligation for those who are self-employed to join, but those who wished could. Those in employment at the date of introduction of the scheme would also have the option of joining.
(b)	Employee contribution	5% of income
(c)	Employer contribution	2% of income
(d)	Exchequer contribution	2% of income, to a maximum contribution of €750 p.a.
(e)	Opt-out	Contributors could cease contributions after three months' contributions had been made. No immediate refund of contributions would be allowed in the first year. Employer and Exchequer contributions could be returned to them rather than to the employee. All employees who would be eligible to join on beginning employment would be allowed to recommence contributions at any time on one month's notice
(f)	Access to funds	Contributors would be allowed to access 25% of their funds tax-free on one occasion before or at retirement.

8.4 The background to the chosen model was as follows:

8.4.1 The most suitable time to join a pension savings arrangement is at the beginning of employment, before spending habits have become established. This is also true to some extent on any change of employment.

Those who become members of occupational arrangements on beginning employment are obviously already making pension provision: the primary purpose of this system is to encourage those who have no other provision, and so those in occupational schemes would not be obliged to join, but would have the right to do so if they wished.

The idea of mandatory provision with opt-out cannot work for the self-employed as it would for employees. Those in employment will be included in the scheme and have ongoing deductions made from pay unless they take the necessary steps to opt out. However, a self-employed person must set up a pension savings arrangement for themselves in the first place, and it is not a passive savings arrangement. Furthermore, it would not be practical or economic to put in place the necessary resources to ensure self-employed compliance.

8.4.2 The appropriate employee contribution level for a soft mandatory scheme must seek a balance between a contribution that is enough to make a difference after allowing for costs, and a rate that is not so high that too many contributors will opt out at the earliest opportunity. The proposed 5% employee rate aims to achieve this balance. It must be emphasised that the total contribution rate proposed above will not of itself provide a retirement income close to the NPPI target of 50% of retirement income. There are some fears that this arrangement will become a de facto benchmark for all pension contributions, and that contributors will overestimate the retirement income it is likely to provide.

8.4.3 Existing pension saving receives Exchequer support through tax relief: a soft mandatory pension system will not succeed unless contributions receive some similar support. However, the proposed support is by means of a contribution match rather than via tax relief: this makes the support more visible, and more likely to be attractive to lower rate or non-taxpayers. The proposed Exchequer support is less valuable than the tax-relief available for higher rate taxpayers, and so is unlikely to persuade them to switch from existing pension arrangements.

8.4.4 The rationale for a minimum period of contribution is to discourage collusion about immediate opt-outs. There may be a small number of employers who would be unwilling to meet their obligations to allow employees to participate in the savings scheme and would, given the opportunity, put those employees under pressure to opt out immediately before any contributions are paid. A minimum contribution period would avoid this situation, and once the structures for deduction are in place in any case, employers will be less concerned about whether employees make ongoing contributions. While 3 months is suggested this period could be longer. A longer period is likely to decrease the number of individuals opting-out of the system.

If employees choose to opt out after making a small number of contributions, their accumulated savings will be small. They will make no practical difference to their retirement standard of living, and will be

uneconomic for the savings provider. There is also a risk that such small amounts would be forgotten and remain unclaimed. It therefore makes sense that small amounts could be refunded. However, a waiting period is being proposed for such refunds, so that the availability of a refund will not act as an incentive to opt out. Where employees do opt out they will only receive a refund of their own contributions. Employer and Exchequer contributions will be refunded to them and not to the employee. Were these contributions available to the employee it might in some cases act as an incentive to opt out and seek a refund.

As the purpose of this scheme is to encourage savings, employees who wish to rejoin after opting out (or who were not eligible for automatic inclusion) should be allowed to do so, subject to practical notification requirements.

8.4.5 It is proposed to allow contributors to access some of their funds before retirement as an incentive to save. Research seems to show that such a facility would increase the attraction of such a savings scheme.

Clearly any pre-retirement withdrawal will reduce the value of the retirement provision: the rationale of the limited withdrawal is to achieve a balance between encouraging contributions and trying to improve retirement provision.

Detailed design considerations

Employer contributions

8.5 The proposed U.K. savings scheme includes an employer contribution of 3% of earnings in addition to an employee contribution of 4% of earnings between a lower and upper limit. The proposed New Zealand scheme does not provide for any mandatory employer contribution. The question of employer contributions was discussed in 7.14 above, and the issues are similar for soft mandatory pensions. There are differing views among Board members about whether or not employer contributions should be required.

It is proposed that there is an employer contribution of 2% of earnings in order to encourage membership of the scheme. This also reflects the view that employers have some responsibility in retirement provision for their employees.

Employers would not be able to benefit from reduced PRSI contributions because of employees contributing to the scheme.

Investment

- 8.6 The range of options that could be considered for a soft mandatory scheme is theoretically just as wide as those considered in sections 7.15 to 7.19. However, it is more likely that investment choices will be limited to those currently available commercially:
- (a) The numbers of participants in this system would be smaller than in a fully mandatory pension system. Furthermore, because this system is not mandatory except in respect of the initial contributions (which can in any case be refunded) arguments that the State has an obligation to provide or underwrite an investment guarantee are less compelling.
 - (b) Because of the smaller numbers, it would be more economic to use as far as possible the existing investment structures and products rather than create new structures.
 - (c) As a soft mandatory system involves an element of choice absent from a full mandatory system, it is even more important that it does not compete with existing provision, especially through the provision of guarantees or features not available commercially. On the other hand, there is no apparent reason why it should not provide price competition.

Savings versus retirement

- 8.7 Possibly the most significant difference between the proposed U.K. and New Zealand systems is that while the former is explicitly intended to supplement retirement provision, the New Zealand system is not specifically designed as such, but is instead a voluntary savings system, with restrictions and Exchequer incentives. In both jurisdictions, the background to the introduction of the proposed scheme must be taken into account: the U.K. scheme was proposed by the Turner Commission, whose terms of reference dealt specifically with retirement provision. In New Zealand, there are no incentives or Exchequer supports for retirement saving in excess of the first pillar State benefits.

An Irish soft mandatory system could therefore be specifically intended to increase pension provision, with corresponding incentives and restrictions, or could be used simply to encourage saving. Some of this saving would be available to contributors in their retirement.

A pension system would by its nature incorporate significant (though not necessarily total) restrictions on access to savings before retirement, whereas a savings scheme would probably have lesser restrictions. The issues that should be considered in this decision are:

- It is current policy since the end of SSIs to provide Exchequer incentives for pension contributions, but not for other private savings.

The Exchequer contribution proposed above is therefore more consistent with a pension rather than a savings scheme.

- A savings scheme will be considerably more popular among potential contributors than a pension scheme. As a corollary, any Exchequer support is therefore likely to be more expensive.

Implementation

8.8 The implementation issues for a soft mandatory scheme are contribution collection and compliance supervision. These issues have been discussed fully in sections 7.20 to 7.25 above. Two points particular to a soft mandatory scheme are:

- The number of participants in a soft mandatory scheme as described here will be smaller than the mandatory scheme as discussed in chapter 7. The approach adopted for contribution collection is therefore more likely to be an adaptation of an existing system than a new creation.
- The biggest compliance problem is likely to be employers and employees colluding to avoid the scheme. Although the system has been designed to minimise the perceived barriers to entry, supervision of this problem will be challenging.

Existing pension provision

8.9 A soft mandatory system is much less likely to be disruptive of existing occupational pension arrangements compared to a mandatory supplementary scheme as in chapter 7. Because the proposed contribution rate is low, it is unlikely that many pre-existing schemes will provide lower benefits. The simpler contribution rates proposed also mean that there are unlikely to be anomalies within pension schemes between members about which is the more advantageous arrangement. There is therefore no need to have complex comparison rules: membership of an occupational pension scheme (i.e. excluding death benefit only schemes) would be sufficient to exempt an employee from the soft mandatory scheme.

Some people may be already contributing to existing PRSAs or RACs when they begin new employment, and may wish to continue these as an alternative to the soft mandatory scheme. However, there is no simple means of integrating a salary deduction soft mandatory system with discretionary contributions to an individual pension arrangement. The necessary compliance effort is unlikely to be justifiable. It is therefore proposed that employees contributing to personal pension arrangements would be obliged to join the savings system unless they were contributing an occupational or personal pension arrangement by payroll deduction.

Financial advice

- 8.10 Any soft mandatory scheme obliges the participants to make a decision at some point whether to continue contributions or to cease. This is not in every case a simple decision, and it cannot be said that it would always be in every participant's financial best interest to continue contributions.

An Exchequer contribution to the scheme makes it more likely that contributions are a good financial decision. However, because the proceeds of the scheme are likely to be fully or partially taxed, it cannot be assumed that contributions to this scheme are better than other, after tax, savings. If the expected tax rate on the scheme benefits is higher than the value of the Exchequer contribution support, there may be better savings alternatives. The issues of access to savings, risk tolerance and outstanding debts should be considered in any complete analysis of the decision to contribute. For example, it can often make better financial sense to pay off credit card debts rather than save money.

An employer contribution makes participation more advantageous and the decision more straightforward.

Another issue about which contributors might want or need financial advice is in the exercise of any investment choice. However, this need can be overcome if an appropriate default investment strategy is provided for participants.

Participants in this scheme may not have access to appropriate personalised financial advice. Employers would be neither willing to, capable of nor authorised to provide this advice. Ideally, savers should take independent financial advice from someone authorised to discuss the full range of financial alternatives available to them. However, this advice may not be available at a price that savers are able or willing to pay. There is, however, some international experience of useful generic advice being provided.

Administration of the system

- 8.11 One of the key issues in designing a soft-mandatory system is the question of how and who administers the system. There are broadly two options:
- (a) create a new body which will arrange a number of fund providers which participants can choose from (as is proposed with the NPSS in the UK), or
 - (b) allow participants to choose from products approved by the regulator which meet specified criteria (as is proposed with the Kiwisaver in New Zealand)

The main advantage of creating a body to arrange funds is that the body would have strong purchasing power and be better positioned to get value on issues such as charges than individual participants. The body could also arrange for the provision of generic information and at least ensure consistency of information and service to participants.

One of the potential drawbacks of such a body is that it could take considerable time to put the appropriate structures and systems in place. It is not expected that the NPSS would be launched before 2010.

The main advantage of using products approved by the regulator which meet specified criteria is that this can build on existing structures within the financial services industry. This can ensure a much quicker lead in time. It would, for example, be relatively straightforward to use a variation of the Standard PRSA product for this purpose.

However a potential drawback is that participants may have more trust in a State operated system than products offered by the financial services industry. There would also be a lack of consistency of both service and performance which would make choosing the right provider a crucial decision.

Take-up and costs

8.12 The costs of a soft mandatory system depend on the take-up. The experience of SSIA's showed the difficulty of predicting take-up of what was a considerably simpler concept than a soft mandatory pension system, and there is no means of knowing how reliable any given estimate would be. The following comments may be of use:

- There are approximately 900,000 people at work (including self-employed) with no supplementary pension. The take-up among this group depends on how often they change employment (and are therefore included in the scheme), how willing or able they are to continue contributing once they are in a position to opt out.
- Of the 900,000 without supplementary provision, approximately 180,000 are self-employed. (Of course, some people change from self-employed to employed and vice versa from time to time). Of the remainder, one possible guess is that after five years 100,000 people would be making contributions to the scheme. Based on CSO earnings data, a typical employee contribution might amount to €1,500 per annum, with an additional €600 p.a. contribution each by the employer and Exchequer. The total cost to the Exchequer and employers in this scenario would therefore be €120 million per annum. However, this should be understood as more of an illustration than an estimate. As a comparison, the cost to the Exchequer of the SSIA

contribution match was about €433 million in 2002, €532 million in 2003 and an estimated €540 million in 2004.

Summary

- 8.13 The decision between a hard and soft mandatory system will not depend on these details but on the objectives identified.

The most notable issues to be considered about soft mandatory systems are:

- 8.13.1 A soft mandatory system leaves more choice to the individual contributor. As a result it is inherently more flexible than a fully mandatory system.
- 8.13.2 It is extremely difficult to predict the effect of a soft mandatory system on supplementary coverage. Although the U.K. and New Zealand plan to introduce such systems, there is no example of such a national system in operation. The success of such a system will depend on how effective is the promotion of such a system and how much it captures the interest of potential savers.
- 8.13.3 As for other mandatory systems discussed in chapter 7, a great deal of further work is needed to decide the design and implementation details.

9. Hybrid model

Overview

- 9.1 Any comparison of State and supplementary mandatory systems as a means of improving retirement provision will tend to emphasise the considerable differences between these approaches. It was therefore decided to examine a proposal that would incorporate elements of both systems to see whether a combined approach offered advantages or disadvantages compared to one or other alternative.

Description

- 9.2 The hybrid system considered in this chapter comprises an increase State pension as well as a mandatory supplementary system.

The proposed increase in the State pension is a 20% increase over the current level. This would increase the pension from the current level of 33% of GAIE to 40%, and in current values, would increase the weekly pension from €193 to €232.

In addition to the increased State pension, a mandatory supplementary system would operate as follows:

(a)	Eligibility	All employees and self employed
(b)	Eligible income	All earned income between 125% and 500% of the increased State pension (between approximately €15,000 and €60,000 as at June 2006)
(c)	Benefit type	Defined contribution
(d)	Contribution rate	15% of eligible income
(e)	Exchequer contribution	5% (included in the 15% above). This would be in lieu of any employer and employee PRSI relief and of any employee tax relief on contributions
(f)	Pre-retirement access	None

It is assumed in the costings that the pension is increased from its current level to the target level over a period of ten years, and its level is maintained as a proportion of average earnings thereafter. It is also assumed that

anyone receiving a contributory State pension will be entitled to the increased amount, irrespective of when they retired.

Contributions to the mandatory supplementary system are assumed to increase from zero to the full amount over ten years. Voluntary pension provision would be allowed in addition to the mandatory contributions.

9.3 The background to the chosen model was as follows:

9.3.1 The current level of contributory State pension is intended to avoid absolute poverty. However, many are of the view that the minimum occupational retirement income should be higher than this basic amount, although there is no consensus about the financing of a higher State pension.

9.3.2 There are practical obstacles to securing an adequate retirement income wholly through a first pillar pension. The hybrid system therefore includes a mandatory supplementary pension to which most people, including many earning less than 50% of the revised State pension, will contribute.

9.3.3 The eligibility criteria for the mandatory element are identical to those described in chapter 7, and the reasoning underlying this is as described in 7.4.1.

9.3.4 The lower limit for eligible income is intended to achieve a balance between the view that the State pension, even as increased, is unlikely to be seen as adequate by many people, and the difficulty of making contributions from low incomes. The chosen limit is approximately 50% of GAIE and approximately equal to the employee threshold for PRSI contributions. The upper earnings limit is the same as used for the model in chapter 7, for the same reasons.

9.3.5 The reasoning for opting for a defined contribution system is as described in 7.4.4.

9.3.6 The proposed contribution rate is intended to provide most participants with a retirement income which is a meaningful amount above the (enhanced) State pension and provide a reasonable standard of living in retirement.

9.3.7 As described in chapter 7 above, the view was taken that it was not appropriate to allow contributors pre-retirement access to their funds within a mandatory system.

Benefit illustrations

- 9.4 This proposal comprises a defined contribution element in addition to the State pension. The total benefits of contributors cannot therefore be predicted. However, as before, it is useful to consider a number of illustrated outcomes to understand the system.

The projections in the tables below estimate the retirement income that will be received by contributors to this system. This table assumes that a contribution rate of 15% of eligible income throughout a working lifetime will result in additional retirement income of 50% of eligible income. It is important to remind readers that these projections are illustrations and not predictions, and are not the only reasonable basis on which projections could be made.

Table 9.4.1 compares the benefits projected for contributors with different levels of earnings, on the assumption that their earnings are a constant percentage of the State pension. For clarity, it is assumed that the current value of the State pension is €10,000 p.a. and therefore the revised value would be €12,000 per annum.

Table 9.4.1 – projected benefits

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Supplementary contributions (% of total earnings)	3.8%	10.5%	8.4%
Pension including State pension (replacement %)	€14,500 (72.5%)	€29,500 (59.0%)	€34,500 (43.1%)
Pension excluding State pension (replacement %)	€2,500 (12.5%)	€17,500 (35.0%)	€22,500 (28.1%)

Because the supplementary scheme is a defined contribution arrangement, there are many factors which may have an effect on the retirement income from the scheme. The tables below illustrate the effects of the most important.

Table 9.4.2 shows the effect on retirement income if the investment return is on average 0.5% higher or lower than assumed above.

Table 9.4.2 – change in investment return

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Assumed investment return +½%			
Pension including State pension (replacement %)	€14,800 (74%)	€31,500 (63%)	€37,100 (46%)
Pension excluding State pension (replacement %)	€2,800 (14%)	€19,500 (39%)	€25,100 (31%)
Assumed investment return -½%			
Pension including State pension (replacement %)	€14,200 (71%)	€27,700 (55%)	€32,200 (40%)
Pension excluding State pension (replacement %)	€2,200 (11%)	€15,700 (31%)	€20,200 (25%)

Table 9.4.3 shows the effect on retirement income if the cost of buying a pension at retirement is 10% higher or lower.

Table 9.4.3 – change in pension cost

Earnings (in 2006 values)	€20,000	€50,000	€80,000
Assumed pension cost +10%			
Pension including State pension (replacement %)	€14,300 (71%)	€27,800 (56%)	€32,200 (40%)
Pension excluding State pension (replacement %)	€2,300 (11%)	€15,800 (32%)	€20,200 (25%)
Assumed pension cost -10%			
Pension including State pension (replacement %)	€14,800 (74%)	€31,300 (63%)	€36,800 (46%)
Pension excluding State pension (replacement %)	€2,800 (14%)	€19,300 (39%)	€24,800 (31%)

Coverage and adequacy

- 9.5 The increased State pension under this system will have the effect of increasing the minimum occupational income comfortably above the NPPI minimum target of 34% of GAIE – the costs of this increase are discussed in section 9.6 below.

The minimum eligible income under this system is €15,000, or 125% of the increased State pension. The result of this relatively low threshold is that everyone earning less than the upper earnings limit is projected to have a retirement income of more than 50% of pre-retirement income, i.e. more than the NPPI target of 50%.

Based on the data in 4.2.1, it is estimated that a lower limit of 125% of the State pension would result in about 80% of the working population making supplementary contributions. This would result in a coverage increase of about 30 percentage points from current levels.

Costings

- 9.6 The tables below show the results of the projections of this system prepared by Life Strategies. Readers are reminded of the limitations of these projections, discussed in section 4.3 above. These projections are on the NPR central basis. Details of this basis as well as projections on alternative bases are provided in Appendices D and E.

Table 9.6.1 compares the total benefits provided under this system with those projected under the current pension system, i.e. the total pensions paid, including State retirement benefits. All results are expressed as a percentage of GNP.

Table 9.6.1 – comparison of benefits

	2006	2016	2026	2036	2046	2056
Current	5.2%	6.7%	9.1%	11.8%	15.0%	16.6%
Hybrid system	5.2%	7.3%	10.0%	13.2%	17.3%	19.4%

The increases in the projected benefits in the current system are a result of the increased numbers in retirement. Under the hybrid system, the benefits increase further in 2016 almost entirely as a result of the higher State pension. The gradual effect of the mandatory supplementary contribution further increases benefits over time. In 2006 values, the increase in benefits in 2016 is about €1.0 billion, increasing to a projected €3.8 billion by 2056.

Table 9.6.2 compares the total pension contributions under the current system (including personal and employer PRSI contributions) with those under this hybrid system. Note that this includes the additional contributions in respect of the increase in the State pension. The table shows these results as a percentage of GNP.

Table 9.6.2 – comparison of contributions, % of GNP

	2006	2016	2026	2036	2046	2056
Current	6.7%	7.0%	6.9%	6.8%	6.6%	6.6%
Hybrid system	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%

It is also useful to express the contribution costs as a percentage of workforce earnings as follows:

Table 9.6.3 – comparison of contributions, % of earnings

	2006	2016	2026	2036	2046	2056
Current	15.5%	15.5%	15.7%	15.7%	15.4%	15.4%
Hybrid system	15.7%	19.7%	19.8%	19.7%	18.7%	18.7%

The projections for 2016 show a significant increase in total contributions, compared to the current system, amounting to about €2.6 billion in 2006 values. This difference is projected to reduce thereafter, as a result of the assumed effect on voluntary provision of the increase in the State pension and the mandatory supplementary system.

Table 9.6.4 compares the Exchequer cost of the mandatory system with the projected cost of the current system.

Table 9.6.4 – comparison of Exchequer costs, % of GNP

	2006	2016	2026	2036	2046	2056
Current	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%
Hybrid system	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%

The Exchequer cost is considerably higher in 2016 as a result of the contributions to the supplementary system as well as the unfunded portion of the additional State pension. The unfunded costs diminish over time, reducing the projected difference between this system and the current system. In 2006 values, the additional Exchequer cost in 2016 is about €1.9 billion,

An analysis of the composition of the Exchequer cost is given in table 61 of Appendix E.

- 9.7 The projections in section 9.6 above are on the central basis of projection. As before, it is useful to compare the effect of changes in some of the assumptions.

Table 9.7.1 shows the effects of different migration assumptions:

Table 9.7.1 – change in migration, % of GNP

		2006	2016	2026	2036	2046	2056
Benefits	Lower	5.3%	7.8%	10.9%	14.5%	18.5%	20.5%
	Central	5.2%	7.3%	10.0%	13.2%	17.3%	19.4%
	High	5.1%	6.7%	8.8%	11.0%	14.2%	16.5%
Contributions	Lower	6.8%	8.7%	8.6%	8.3%	7.9%	7.8%
	Central	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%
	High	6.9%	8.9%	8.9%	8.7%	8.4%	8.3%
Exchequer costs	Lower	2.7%	5.7%	7.6%	7.9%	8.0%	8.6%
	Central	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%
	High	2.6%	4.9%	6.3%	6.3%	6.0%	6.2%

Because the mandatory supplementary element of the system is defined contribution, the rate of return assumed on investments is of considerable importance. Table 9.7.2 shows the effects of different investment return assumptions:

Table 9.7.2 – change in investment return, % of GNP

		2006	2016	2026	2036	2046	2056
Benefits	-0.5% p.a.	5.2%	7.3%	9.9%	12.9%	16.8%	18.9%
	Central	5.2%	7.3%	10.0%	13.2%	17.3%	19.4%
	+0.5% p.a.	5.2%	7.4%	10.2%	13.5%	7.8%	20.0%
Contributions	-0.5% p.a.	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%
	Central	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%
	+0.5% p.a.	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%
Exchequer costs	-0.5% p.a.	2.6%	5.3%	6.9%	7.5%	7.6%	8.2%
	Central	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%
	+0.5% p.a.	2.6%	5.4%	7.1%	7.2%	6.9%	7.2%

More detailed projection results are shown in Appendix E.

- 9.8 As for the other systems, the Oversight Committee examined alternative projections which attempted to make allowance for the significant economic effects of this pension system. However, without further study, the basis for making such adjustments is not clear. For completeness, the results of the projections are summarised below and included in Appendix E, but the results in 9.7 should be seen as the primary projections of this project.

The ESRI were not asked to model this pension system, but having considered the results of the ESRI projections for the other systems, it was decided to use the same assumptions as used in the projections for the increased first pillar pension described in chapter 6. These adjustments to the projection bases are as follows:

Table 9.8.1 – assumed economic impact

First 10 years	GNP	99% in year 10
	Salary	95% in year 10
	Employment	97% in year 10
Following years	GNP	Reducing to 98% by year 50
	Salary	Reducing to 90% by year 50
	Employment	Reducing to 94% by year 50

The following table compares the projections in section 9.6 with those on the adjusted basis,

Table 9.8.2 – effect of change in economic assumptions, % of GNP

	2006	2016	2026	2036	2046	2056
Projected benefits						
NPR basis	5.2%	7.3%	10.0%	13.2%	17.3%	19.4%
Adjusted basis	5.2%	7.4%	10.1%	13.3%	17.3%	19.4%
Projected contributions						
NPR basis	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%
Adjusted basis	6.8%	8.4%	8.2%	7.9%	7.4%	7.3%
Projected Exchequer cost						
NPR basis	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%
Adjusted basis	2.6%	5.2%	6.8%	7.2%	7.1%	7.7%

Funding

- 9.9 As for the system described in chapter 6, the modelling of this system assumes that specific additional contributions will be made to provide for the increases in the State pension, with these contributions split equally between employees and employers for the purpose of calculation.

As before, the contribution was calculated to be the average contribution that each person at work would have to make throughout their working lifetime to provide sufficient funds to pay for the increased pension. This

contribution rate would be 3.5% of total income, i.e. not subject to any contribution ceiling, or about €1.7 billion per annum.

This contribution is the estimated cost of providing the additional State pension over a working lifetime. However, the additional pension for those who have already retired or who are already in the workforce will not be fully funded from this contribution. The cost of this unfunded benefit, as a percentage of GNP, is given in table 9.9.1:

Table 9.9.1 – cost of unfunded first pillar increases, % of GNP

	2006	2016	2026	2036	2046	2056
Annual cost	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

As in chapter 6, the modelling assumed that the additional costs would split equally between employees and employers for the purposes of the projections. Readers are referred to the discussion in section 6.8.

Design and implementation

- 9.10 Sections 7.13 to 7.29 above explored a large number of issues that must be considered in the implementation of a mandatory supplementary system. As the mandatory supplementary contributions under this system are greater than under that described in chapter 7, these issues are of more importance under this system.

Summary

- 9.11 This hybrid model, part increased State pension, part supplementary system, was considered to see if it could overcome some of the drawbacks of other, single approaches. A summary of the most notable issues for consideration is:
- 9.11.1 This approach provides additional income for all occupational pensioners, including those who have already retired or who will retire shortly.
 - 9.11.2 The eligibility limits as modelled are designed to provide an income in excess of the NPPI targets for everyone earning less than the upper earnings limit.
 - 9.11.3 This system provides better retirement income than for the simple mandatory system considered in chapter 7, because of the additional State pension and the lower eligibility limits. The corollary is obviously higher contribution rates: the contributions for this system are very similar to those for the system in chapter 6.

10. Conclusion and recommendation

Recommendation

- 10.1 This report recommends that the most appropriate and practical approach to improving the position of pensioners in Ireland would be a combination of an increase in the State pension with a mandatory supplementary system for those at work who are not making supplementary provision. The system would be known as the Special Savings for Retirement and individuals would hold Special Savings for Retirement Accounts or SSRAs.

This recommendation is being made in response to the specific request of the Minister for Social and Family Affairs in his letter to the Board of 6 February 2006. It is not a recommendation for or against the introduction of such a system. Furthermore, the collective recommendation was made notwithstanding that Board members may individually have other preferences.

The Board member nominated by the Minister for Finance believes that owing to such factors disclosed in the report as the significant Exchequer costs, the broader macroeconomic effects and the prospective adverse impact on existing voluntary provision, the Board's recommendation does not comprise a workable option.

Detailed specification

- 10.2 The report recommends that the contributory State pension be increased to 40% of GAIE over ten years until 2016 or similar period, and that the real value of the pension be maintained at least at that proportion of GAIE thereafter.
- 10.3 In addition, it is recommended that a supplementary system called Special Savings for Retirement be set up for all employees who are not members of occupational schemes or do not have sufficient supplementary savings.

The detailed provisions of the scheme are similar to those described in chapter 9 and are as follows:

(a) Eligibility	All employees and self employed who are not members of an approved pension arrangement or do not have sufficient supplementary savings would be automatically enrolled to the Special Savings for Retirement scheme (see 10.9(b) below)

(b)	Eligible income	All earned income between 50% and 200% of GAIE (between approximately €15,000 and €60,000). See 10.9(d) below
(c)	Total contribution rate	15% of eligible income. The split among employee/employer/Exchequer to be agreed as part of partnership.
(d)	Benefit type	Defined contribution (but subject to a minimum – see 10.9(f) below)
(e)	Access to funds	There would be no pre-retirement access to funds except in specified exceptional circumstances.

The mandatory contributions to the SSR would be introduced gradually over 10 years.

Recommendation background

10.4 None of the pension systems examined in the preparation of this report was unambiguously superior to any of the alternatives. The advantages and drawbacks of each of the alternative approaches are set out in chapters 6 to 9 of this report.

The primary reasons why the above system is being proposed are as follows:

- (a) There is considerable support amongst the Board for an increase in the State pension as a means of improving retirement incomes for all existing and future retirees. However, the projections prepared for the Board make clear the high and growing cost of any significant improvement. The increase proposed above is intended to balance the considerations of improved retirement income and sustainability. The Board notes that an increase in the State pension as suggested would be of especial benefit to the lower paid.
- (b) Because the proposed improvement in the State pension would be felt by many to be an inadequate retirement income, additional provision would be made through obligatory contributions to a supplementary savings scheme.

10.5 Some brief comments on the other systems considered are:

- (a) Although there is much support for the increase in State pension to 50% of GAIE as examined in chapter 6, the projected costs are seen to be a significant difficulty.

- (b) A mandatory supplementary system as described in chapter 7 will eventually deliver benefits close to the NPPI targets. However, such a system would take about 40 years to provide full benefits, and raises considerable issues of implementation and design complexity. Those complexities remain with this system but the increase in State pension provides immediate benefit to current pensioners and those retiring before the benefits of the supplementary element start to come through.
- (c) There is much support for a soft mandatory system as described in chapter 8, especially combining some increase in State provision with a soft mandatory supplementary system. There is, however, concern that the take-up of the supplementary provision would be too low to achieve the desired objectives. Furthermore, in order to encourage participation, the contribution rate would have to be lower than needed for adequate provision.

Costs, benefits and impacts

10.6 Table 10.6.1 compares the total projected benefits provided under this system with those projected under the current pension system, i.e. the total pensions paid, including State retirement benefits. All results are expressed as a percentage of GNP.

Table 10.6.1 – comparison of benefits

	2006	2016	2026	2036	2046	2056
Current	5.2%	6.7%	9.1%	11.8%	15.0%	16.6%
Proposed system	5.2%	7.3%	10.0%	13.2%	17.3%	19.4%

The increase in the projected benefits in the current system is a result of the increased numbers in retirement. Under the hybrid system, the benefits increase further in 2016 almost entirely as a result of the higher State pension. The gradual effect of the mandatory contribution benefits further increases benefits over time. In 2006 values, the increase in benefits in 2016 is about €1.0 billion, increasing to a projected €3.8 billion by 2056.

10.7 Table 10.7.1 below compares the total projected pension contributions under the current system (including personal and employer PRSI contributions) with those under this proposed system. Note that this includes the additional contributions in respect of the increase in the State pension. The table shows these results as a percentage of GNP.

Table 10.7.1 – comparison of contributions, % of GNP

	2006	2016	2026	2036	2046	2056
Current	6.7%	7.0%	6.9%	6.8%	6.6%	6.6%
Proposed system	6.8%	8.9%	8.8%	8.5%	8.1%	8.0%

It is also useful to express the projected contribution costs as a percentage of workforce earnings as follows:

Table 10.7.2 – comparison of contributions, % of earnings

	2006	2016	2026	2036	2046	2056
Current	15.5%	15.5%	15.7%	15.7%	15.4%	15.4%
Proposed system	15.7%	19.7%	19.8%	19.7%	18.7%	18.7%

The projections for 2016 show a significant increase in total contributions, compared to the current system, amounting to about €1.9 billion in 2006 values. This difference is projected to reduce thereafter, as a result of the assumed effect on voluntary provision of the increase in the State pension and the mandatory supplementary system.

Table 10.7.3 compares the projected Exchequer cost of the mandatory system with the projected cost of the current system.

Table 10.7.3 – comparison of Exchequer costs, % of GNP

	2006	2016	2026	2036	2046	2056
Current	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%
Proposed system	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%

The projected Exchequer cost is considerably higher in 2016 as a result of the contributions to the supplementary system as well as the unfunded portion of the additional State pension. The unfunded costs diminish over time, reducing the projected difference between this system and the current system. In 2016 values, the additional Exchequer cost in 2006 is about €1.8 billion.

Further details regarding the cost and benefits are contained in chapter 9. Further projections are provided in tables 61 to 70 of Appendix E.

10.8 The following is a summary of the observations on this system made by Fitzpatrick Associates in their report:

- Potentially highest costs of implementation.
- Still some potential for negative external perceptions of additional taxation
- Labour market impact more significant than purely supplementary scheme.
- Guarantees greater minimum income in retirement.
- Guards against regressive impacts with lower income threshold.
- Stops higher income groups from using scheme as alternative investment option.

The full text of their report is given in Appendix A.

10.9 Any change to supplementary pensions can potentially increase complexity and may have unintended consequences. The Board would therefore be in favour of further study of the detailed implementation of the supplementary mandatory system proposed, in combination with appropriate public consultation before the system could be introduced.

A number of relevant implementation issues were identified in chapters 6 and 7. The Board's current views on these topics are:

- (a) A number of the Board members are in favour of increasing the contribution to the NPRF sufficiently to cover the entire long-term cost of the increase in the State pension. The amount of this increase is estimated to be about an additional 1.3% of GNP, or about €1.7 billion per annum. However, other Board members are not in favour of pre-funding these payments.
- (b) Those who are making existing adequate occupational pension provision or have sufficient savings would not be required to contribute to the Special Savings for Retirement scheme. Detailed regulations would be required to define an adequate alternative and appropriate certification procedures must be designed and supervised.
- (c) Sections 7.20 to 7.24 discussed possible models for the collection of supplementary contributions under a mandatory system. The Board's initial view favours the use of the PRSI system for collection, but recognises that considerable further investigation is needed.

- (d) There is a range of views about what the upper limit for eligibility should be. An upper limit of twice GAIE was adopted for the purposes of preparing projections, but there was support for setting this limit at 3 times GAIE or approximately €90,000.
- (e) The Board's initial view favours the investment of contributions by the State, possibly through the National Treasury Management Agency.
- (f) Some Board members believe that it would be appropriate to provide investment guarantees for contributions to the Special Savings for Retirement scheme. Such guarantees could provide a minimum investment return, or could provide a minimum retirement income, which would provide a minimum defined benefit. As discussed in section 7.17, there is a wide range of potential approaches, which require detailed assessment.
- (g) The Board notes that the introduction of the Special Savings for Retirement system would require an increase in the regulatory resources needed to ensure compliance. This may include some or all of the Pensions Board, the Financial Regulator, the Revenue Commissioners, the Department of Social and Family Affairs, and possible other bodies.

10.10 The Special Savings for Retirement system outlined in this report could:

- improve retirement incomes for all existing and future retirees;
- encourage additional saving for retirement for those in the workforce.

10.11 The Board believes that the operation of the scheme should be carefully monitored so that any changes can be made in light of progress towards objectives and changes in circumstances affecting pensions. This may be the case if the scheme has any unforeseen effects.

10.12 While further consideration will need to be given to some of the implementation issues, the report provides a realistic picture of the practical implications of introducing such a system from a range of perspectives. In conjunction with the findings of the NPR, the Board believes that the up-to-date costs and projections shown in this report and its conclusions and recommendations will make a sound contribution to future decision making on pension provision. The Board is available to provide appropriate elaboration on any issues which the Minister considers relevant and to develop approaches to meeting the objective of adequate retirement provision for all.

Appendices

Appendix A – report by Fitzpatrick Associates

Appendix B – report by ESRI

Appendix C – soft mandatory systems

Appendix D – report by Life Strategies

Appendix E – Life Strategies projection results

The Economic Impact of Mandatory Pensions

Final Report

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Executive Summary

Background and Terms of Reference

The National Pension Policy Initiative (NPPI) was established in 1998. It subsequently formulated a strategy and made recommendations for a fully developed national pensions system for Ireland, including the setting of targets related to retirement income and pension coverage. With pension coverage for the 30-65 year age group in Ireland currently well below the NPPI target of 70%, there has been much recent debate about the need for mandatory pension provision as an approach to addressing the situation. The Pensions Board, the statutory body responsible for monitoring and supervising operation of the Pensions Act and advising on pension's policy in general, considered this issue in producing the National Pensions Review in 2005. Following publication of the Review, the Board was asked to further examine the issues relating to adoption of a mandatory (or quasi-mandatory) pension system, with a view to recommending the most appropriate approach for Ireland at a practical level.

As a result, the Board commissioned Fitzpatrick Associates to assess the likely broad economic impacts of introduction of such a system in Ireland, including impact on discretionary savings, impact on fiscal balance/national savings, competitiveness and labour market effects of compulsory savings, and prospective implications of the proposed system on potential economic growth rates. This assessment was done on a desk basis, drawing on existing available literature and information. It was prepared during the three-week period May 22nd-June 9th 2006.

Mandatory Pension Provision

Mandatory pension systems require that employees subscribe to supplementary pension schemes (i.e. beyond the PRSI based Old Age Contributory Pension in the Irish case). However, the nature and structure of such systems in terms of design and delivery can differ very substantially, depending on the way in which a range of key issues are addressed. These key issues include coverage of the scheme, contribution levels, cost distribution, means of scheme introduction, and the establishment of ceilings and floors. The way in which each of these issues is addressed in designing and delivering a mandatory system will also result in potentially different economic impacts.

Mandatory or quasi-mandatory systems are already in place in a number of countries including Australia, Chile, Denmark, Switzerland, Sweden, the Netherlands, Hungary and Iceland. Practice and experience differs markedly between the countries that have adopted this approach. Systems developed include defined contribution and defined benefit models, compulsory contributions to private pension plans, state-run schemes, and initiatives operated by social partners. Some

schemes stipulate fixed contributions and others allow additional payments. This paper draws on published literature about these schemes and their impact.

Irish Economic Context

Ireland has experienced rapid economic growth and a subsequent increase in living standards since the mid 1990s. A key driver of economic success has been the availability of a skilled labour force, with over 2 million people now in employment and labour force participation rates for both males and females having increased significantly. Sustaining the necessary labour force expansion in the medium and long-term is now a key challenge. Falling fertility rates mean that going forward the working age population is likely to remain fairly static in Ireland, even allowing for significant immigration. As a consequence, the number of older people (past the current working age) will constitute a larger proportion of society as a whole. Resources must therefore be in place to support the income needs of older people in retirement, and pension coverage is a critical factor in ensuring that this is the case.

Economic Assessment

Discretionary Savings: In terms of the impact of mandatory pension provision on national savings, the literature reviewed on experience elsewhere suggests that systems can, depending on their design and delivery, increase levels of aggregate savings. The planning of any mandatory pension provision should therefore recognise that the higher the required contribution rate (above current voluntary saving levels), and the lower the opportunities for individuals to offset mandatory savings, the greater the increase that will result in the overall savings rate.

Fiscal Balance: The impact of introducing mandatory pension provision on fiscal balance depends on a number of factors including contribution rates, tax incentives available, revenues generated, the body taking receipt of the contributions, and ultimate use of the contributions. Although international research on this subject is relatively sparse, it would appear that the two main risks in implementation surround Government deployment of contributions for current expenditure purposes and the redistributive effects of tax incentive systems. In the former case, this can negate any impact on increasing household saving. In the latter, unilateral tax incentives can cause regressive redistribution of wealth between high and lower earners. Planning of mandatory pension provision must therefore guard against these occurrences.

Impact on Labour Market: A range of contrasting views as to the impact of mandatory pension schemes on the labour market emerge from international literature. There is some risk of such provision resulting in a decrease in employment levels, with the mandatory contributions acting like a tax, decreasing labour demand (when employer contributions are involved) and reducing labour supply (when levied on employees). The elasticity of labour demand and supply can be influenced somewhat by Government policies (e.g. level of social welfare benefits). Exchequer contributions (e.g. via tax incentives) will have a similar impact, as these will have to be financed through taxation. The level of impact on the labour market will depend on the design and delivery of the mandatory pension model, and would be expected to be most strongly felt in labour-intensive industries and

among employers that had not previously made pension contributions. A phased introduction could prove beneficial, as this avoids shocks and allows the labour market time to react and plan accordingly. Informing employees as to the benefits of contribution, and discouraging them from perceiving it as a tax, may also help to reduce any negative labour market impact.

National Competitiveness: The impact of a mandatory pension system on national competitiveness closely relates to the impact on the labour market discussed above. If labour costs do rise, and labour supply decreases, other things being equal a negative impact in terms of overall competitiveness will result. The introduction of a mandatory scheme may also have some impact on how Ireland is perceived by potential inward investors. National competitiveness both overall and for foreign direct investment is of course a relative thing, i.e. there is less potential loss of competitiveness if Ireland is moving at the same pace as competitors. Developments in key competition countries regarding pension provision would therefore also be a factor. Some consideration of this could therefore be a factor in any phased introduction. In the short-term, with some concerns about Ireland's post "Celtic Tiger" competitiveness generally, there may be a case for particular awareness in this regard.

Economic Growth Prospects: Economic growth impact from mandatory pension provision is intrinsically linked to the issues of both labour demand and supply and national competitiveness discussed above. Some positive impacts in terms of growth can result from implementation of a scheme resulting in increased national savings which are translated into more productive investment and hence an expansion in output. However, the potential negative effects are widely considered to outweigh such potential benefits, and pension systems are primarily a distributive rather than a production enhancing device. This view is confirmed by ESRI forecasts for a range of key economic indicators over the 2007-11 period, assuming adoption of four different mandatory models. In general it would seem that the implementation of a mandatory scheme would generate similar effects to those of any new national tax.

Implications for Proposed Models

It is understood that three basic models of mandatory pension provision are under consideration should the Government decide to proceed along this course. The international research considered in this report has certain implications for each of the models, and the most pertinent issues to consider when weighing up the options are summarised below:

TABLE 1: ISSUES WORTHY OF CONSIDERATION FOR THREE PROPOSED MODELS OF MANDATORY PENSION PROVISION

Model	Issues Worthy of Consideration
Model A, based on the assumptions used for M1 in the ESRI analysis, with the State Retirement Pension increased to 50% of gross average industrial earnings (GAIE).	• Simplest and most cost effective to implement. • Perceived as additional taxation to a greater extent than a supplementary scheme. • Most likely to have greatest negative impact on national savings, compared to other models. • Resultant impact on labour force participation. • Impact on labour demand dependent on scale of increase in employers' PRSI contributions • Less likely to impact on participation in voluntary pension schemes. • Approach may be perceived as overly interventionist by potential inward investors.
Model B, based on the general principles governing M2, M3 and M4 in the ESRI analysis, involving a supplementary system with a contribution rate of 15%, with 5% provided the Exchequer, and the remainder split between employer and employee contributions, with options of immediate introduction or phasing in over a ten year period.	• More significant costs of implementation. • Potential to generate increase in total aggregate savings, (although not guaranteed). • May reduce contributions to voluntary pension schemes. • Less of a labour market impact than a PRSI based scheme. • Phased in rather than immediate approach may reduce impact. • Works most efficiently where balance exists between employers and employees contributions.
Model C, a hybrid model combining the above components assuming a State Retirement Pension of 40% of GAIE and a supplementary system with a contribution rate of 15%, a lower contribution threshold of approximately €15,000 and an upper earnings limit of €60,000.	• Potentially highest costs of implementation. • Still some potential for negative external perceptions of additional 'taxation' • Labour market impact more significant than purely supplementary scheme. • Guarantees greater minimum income in retirement. • Guards against regressive impacts with lower income threshold. • Stops higher income groups from using scheme as alternative investment option.

Overall Conclusion

While international literature on the specific economic impacts of mandatory pension provision is limited, this study reviewed a range of material that provides good illustrative examples of the

impacts that might result were such a scheme to be introduced. While direct application of such findings to the specific Irish context must be done cautiously, this report nonetheless serves as a means of identifying the economic issues that need consideration when making a decision with regard to mandatory pension policy. It has found that mandatory pension contributions can negatively impact on the labour market with repercussions in terms of national competitiveness and overall economic growth. However we have also found that a scheme could, with appropriate design and delivery, increase overall levels of saving and, if these savings can be productively invested, expansions in national output can be generated. Overall it is clear that the extent to which such impacts are realised is a product of the design and delivery of the system, and very careful consideration must be given to the issues discussed in this report and their relevance to the Irish economic context prior to any decision on any model. The nature of its introduction, and especially the role of a phased approach, also emerge as an important way to avoid any potentially negative economic shocks.

1. Background and Terms of Reference

1.1 Background

The National Pension Policy Initiative (NPPI), established in 1998, formulated a strategy and made recommendations for a fully developed national pensions system. These included a recommendation that a series of targets should be adopted relating to retirement income:

- replacement income of 50% of pre-retirement income before tax;
- minimum income of 34% of gross average industrial earnings (GAIE); and
- supplementary pension coverage for 70% of the working population over the age of 30, in order to achieve the replacement income target.

The Pensions Board, as the statutory body established under the provisions of the Pensions Act, 1990 (as amended) and reporting to the Minister for Social and Family Affairs, is responsible for monitoring and supervising operation of the Pensions Act. It also advises the Minister on pension matters generally. Its activities are framed by a Mission Statement comprising four key areas of responsibility:

- to promote the security and protection of members of occupational pension schemes and contributors to Personal Retirement Savings Accounts, in accordance with the Pensions Act, 1990;
- to promote the development of efficient national pension structures;
- to promote a level of participation in the national pension system which enables all citizens to acquire an adequate retirement income; and
- to provide information and authoritative guidance to relevant parties in support of pension security, structures and participation.

In delivering on its remit, the Pensions Board published the National Pensions Review in 2005. This involved a review of previously agreed pension targets, an assessment of current coverage and adequacy, and discussion of the strategic options available for meeting the agreed targets, including consideration of mandatory pension provision.

Following the publication of the Review, the Minister asked the Pensions Board to further examine the issues relating to adoption of a mandatory or quasi-mandatory system, with a view to recommending the most appropriate system for Ireland at a practical level. This is now being undertaken, without any predetermined view on whether or not such a system should be introduced in the Irish context.

1.2 Present Pension Coverage in Ireland

A key issue facing any ageing society is the distribution of associated costs of the changes that are taking place in the demographic structure of that society. Specifically, it becomes more challenging to ensure that older members of the population have an adequate income in retirement without the costs of such provision adversely impacting upon the economy. In this regard, encouragement of second pillar pension coverage is viewed as a critical mechanism in facilitating adequate income provision for old age and retirement.

The latest CSO figures (for Quarter 1, 2005) show that the pension coverage rate for all persons in employment aged between 20 and 69 in Ireland was 51.5%, representing a slight decrease from the 52.4% reported for the first quarter of the previous year. Analysis is also provided for differing age bands, most notably those for which formal targets were set in the NPPI. This highlights a coverage rate for those aged 20–29 of 34.4%, just below the target set in the NPPI of 35%. For those aged 30–65, there is 58.6% coverage, some way below the NPPI target of 70%.

Some progress has therefore been made since the launch of the NPPI with a range of interventions to encourage voluntary take-up of second pillar pensions. These include financial incentives, educational campaigns and the introduction of obligatory PRSA facilities by employers. However with a considerable gap between existing coverage and the NPPI target for the 30–65 age group of 70%, mandatory pension provision is now being considered as a possible option.

1.3 Terms of Reference

As part of its examination of the issues surrounding the adoption of a mandatory or quasi-mandatory system, were this to occur, the Pensions Board commissioned Fitzpatrick Associates to provide a desk-based assessment of the likely economic impacts of introduction of a mandatory pension system in Ireland. The Board stipulated that this assessment be drawn from research of international literature and should focus on issues including:

- impact on discretionary savings;
- impact on fiscal balance/national savings;
- competitiveness and labour market effects of compulsory savings;
- prospective implications of the proposed system on potential growth rates.

In addressing these issues it is intended that the study outlines the potential economic impact of mandatory pensions in general, rather than focuses on one specific model.

Two parallel pieces of research are also being carried out: Life Strategies is developing potential mandatory pension models and projecting their associated costs, while the Economic and Social Research Institute (ESRI) is carrying out macro-econometric analysis of these mandatory options, using the HERMES model to quantify the economic impact of the proposal for incorporation into the costing model. The economic results from both these exercises are highlighted in this paper where relevant.

1.4 Report Structure

The remainder of the report is structured as follows:

- Chapter 2 outlines the defining characteristics of mandatory pension systems in general, followed by a brief outline of mandatory pension provision in other countries;
- Chapter 3 highlights some relevant Irish socio-economic characteristics, then discusses the economic impacts of mandatory pensions, addressing each of the issues defined by the Board in turn;
- Chapter 4 examines the implications from the findings for the specific models which were analysed by ESRI and Life Strategies;
- Chapter 5 provides our concluding remarks.

2. Mandatory Pension Provision

2.1 Introduction

In order to provide an economic assessment of mandatory pension provision in Ireland, it is important to first identify the differing characteristics of such provision. This facilitates an understanding of how these characteristics generate varying economic impacts. With this established, specific systems of mandatory pension provision are discussed, with brief profiles of the situation in Australia, Chile, Denmark, Hungary, Iceland, Singapore, Switzerland, Sweden, the Netherlands and New Zealand.

2.2 Design and Delivery Issues

Mandatory pension systems require that persons in work subscribe to supplementary pension schemes (beyond the PRSI based Old Age Contributory Pension in the Irish case). However, the structure of such systems can differ substantially, depending on the way in which a range of key issues are addressed. These issues include:

- **Coverage:** those included in the system, (e.g. employees, self employed, those within particular earnings brackets, those in particular sectors, those below a certain age, and so on);
- **Contributions:** the targeted benefit level and thus the subsequent mandated contribution;
- **Cost Distribution:** this critical issue refers to the division of the cost of provision between the three main potential stakeholders – eligible individuals, employers and the Exchequer;
- **Creation:** the means by which the scheme is to be introduced (i.e. Is it to be integrated with current systems? Will it cover all eligible individuals or just new entrants? Will it be phased in or introduced immediately?);
- **Ceilings and floors:** the income from which a contribution will have to be paid (i.e. is income below a certain floor exempt? Is there an upper limit?)

The way in which each of these issues is addressed in designing and delivering individual mandatory pension provision systems will clearly have a resultant economic impact, and this will be discussed in greater depth as an assessment of the impact of such provision is provided later in the report. It is also worth noting that, as part of their work for the National Pensions Review and for the exercises commissioned in tandem with this study, Life Strategies and the ESRI have looked at a number of different specific models of mandatory pensions and their impact for Ireland, considering options for addressing the issues highlighted above. These have included increasing first pillar pension provision contributions (akin to increasing PSRI contributions) and introducing separate second pillar contributions.

2.3 International Models of Mandatory Pension Provision

Approaches to mandatory pension provision differ markedly in countries that have adopted this approach. This can be attributed to a number of factors, including each country's economic characteristics, demographic profile, political system and social policies, and previous pension arrangements. As a consequence, it is difficult to directly compare any two national models of pension provision.

Furthermore, the economic impact resulting from the introduction of a model in one country cannot be assumed to be the same as that resulting from the introduction of a similar model in another country, due to the differing underlying situations. Nevertheless, it is worth briefly profiling some of the mandatory pension provision models that are currently in place.

Australia

Australia's pension system consists of two components: a means-tested old age pension plus the superannuation guarantee, a compulsory contribution to a private pension plan. The superannuation guarantee was introduced in 1992, covering all employees (but not those self-employed) aged 18-65 where earnings are greater than \$A450 month (representing 14% of average male earnings). Employers must make a mandatory contribution of 9%, and although not required to contribute for workers earning less than \$A450 monthly, they can choose to do so. A limit exists for the earnings covered by the superannuation scheme - \$A113,460 in 2002 – and employers need not contribute for employees' pay above this threshold.



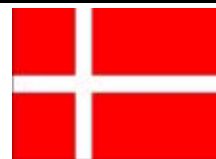
Chile

Chile's private pension system was introduced in 1981 and is a fully funded defined contribution scheme, mandatory for all dependent workers who entered the labour force after January 1, 1983 and is optional for those in self-employment. Workers already participating in the labour force prior to 1983 were given the option of staying in the old, government run system or moving to the new system. Workers contribute 10% of their wages to their individual accounts each month; this percentage applies only to the equivalent of the first \$22,300 of earnings. Employers may also make contributions to their employees' accounts. Any worker may also contribute up to an additional 10% of wages.



Denmark

Denmark's pension system has a number of strands; a public basic scheme and two statutory schemes – the ATP and SP. Contributions to these latter schemes represent approximately 1% of gross wages with ATP contributions split between employers (two-thirds) and employees (one-third) and those under SP paid entirely by the employee. Voluntary occupational schemes are also in place, administered by the social partners, and these cover more than 80% of the active population. They are fully funded defined-contribution schemes financed via contributions which range from between 9% and 17% of earnings.

**Hungary**

The Hungarian pension system is a mixed system that combines an earnings-related public pension with mandatory, funded, defined-contribution schemes. This system was introduced in 1998 and is mandatory for all, except those aged over 42 at the time of the reform. The latter group can choose between this mixed system or a pay-as-you-go public pension. For those covered by the mixed system the contribution rate is 8% of gross pensionable earnings.

**Iceland**

Iceland's pension system is split into three pillars; a tax financed public pension scheme; mandatory funded occupational pension schemes with a hybrid (albeit mainly defined-benefit) formula and voluntary pension saving with tax incentives. All employees and self-employed persons from 16 to 70 are covered under the mandatory occupational pension. The contribution rate is 10%, of which four-tenths is provided by the employee and six-tenths by the employer.



Singapore

The Central Provident Fund (CPF) operates as a centrally-administered publicly-mandated retirement scheme built around individual accounts. Both employees and employers must contribute a substantial fraction of earnings until the employee attains age 55. The current contribution rate is set at 32%, split between employees and employers. The system has expanded to include schemes such as Home ownership, pre-retirement investments, life, home and health insurance, and others such as a loan scheme for tertiary education and a compulsory medical savings account.

**Switzerland**

The Swiss pension system has three components – public earnings related schemes; mandatory occupational pensions and an income-tested supplementary benefit. The mandatory occupational system was introduced in 1985 and is compulsory for all employees earning over a set minimum income. It is built around “defined credits” to an individual’s pension account ranging from 7% to 18%. Employers are required to pay at least 50% of total contributions but statistics indicate that they actually currently contribute around 60% of the total.

**Sweden**

Sweden has three pillars of pension provision. The first is a state and mandatory scheme with various tiers, the second is supplementary and quasi-mandatory and the third is a voluntary and private system. The quasi mandatory second pillar covers around 90% of employees and involves occupational schemes based on collective agreements. It was introduced in 1999 and applies to people aged 45 or under at the time of reform. Employees contribute 7% of salary and employers contribute 10.21%; 2.5% of the contribution goes into what is known as a premium pension - an individual funded account - while the remainder goes into the public scheme.

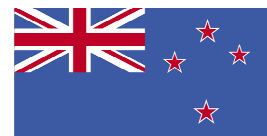


The Netherlands

The Netherlands pension system has two main components – a flat rate public scheme and earnings-related occupational plans. The latter is a private quasi-mandatory scheme. Although there is no statutory obligation for employers to offer a pension scheme to their employees, industrial relations agreements mean that 91% of employees are covered. The system consists of 64 industry-wide schemes financed through contributions that are fully funded (of a defined-contribution or a defined benefit type). Under certain conditions, companies are free to opt out of these plans if they offer their own scheme with equivalent benefits. There are around 866 of these single-employer plans. A further 30 000 (mainly smaller) employers offer schemes operated by insurance companies on their behalf¹.

**New Zealand**

New Zealand has a universal flat-rate pension financed through general taxation, and this is supplemented by voluntary, funded direct-contribution pensions. The rates of public pension are linked by law to average earnings with the net couple rate being set between 65% and 72.5% of the net average wage, depending on movements in prices. The rates for single people are set at 65% (living alone) and 60% (sharing) of the couple rate. To qualify, participants must have ten years residency since the age of 20 (including five years after age 50). A new voluntary, work based savings scheme is to start in April 2007 known as the KiwiSaver. All residents under 65 are eligible and personal contributions are 4% or 8% of gross salary. The government makes a kick-start contribution of NZ\$1000 per person. Automatic enrolments for all new employees but with an opt-out period of four weeks. Also tied to the scheme is an opportunity for first time home buyers to withdraw funds to assist with the purchase of a 1st home after a minimum of three years.



¹ Taken from OECD, *Pensions at a Glance: Public Policies across OECD Countries*, 2005.

3. Economic Assessment

3.1 Introduction

In identifying the potential economic impacts of mandatory pension provision, it is important to understand the economic context which would underpin such provision. This chapter provides this context, setting out key issues in relation to economic growth and well being. It then focuses on economic assessment across the specific areas of national savings, fiscal balance, the labour market, competitiveness and potential growth rates. Other considerations outside of these areas are also discussed.

3.2 The Irish Economic Context

Ireland has experienced rapid economic growth and a subsequent increase in living standards since the 1990s. While this has been a highly positive and welcome development, it has also contributed to a series of impacts at both macro and micro level that are of direct relevance to the current study. At a more macro level these have included:

- Heavy reliance on Foreign Direct Investment (FDI);
- High net immigration, and an increasing dependence on this source to meet labour market needs;
- Concerns over costs and competitiveness issues. For example, Irish pay costs have been rising faster than in other EU countries, (up 35.4% in the period 1999 – 2004);

At a more micro or individual level, the following characteristics have been apparent:

- Direct employee payroll taxes have been lowered and remain comparatively low in an international context;
- Personal borrowings have continued to increase. By the end of 2005, the ratio of personal debt to disposable income had increased to 132%, against 115% a year earlier;
- The appetite for investment in property continues to grow, resulting in increasing property prices.

The above factors mean that although significant economic progress has been achieved, with more growth forecast in the short and medium terms, risks (such as our heavy reliance on the construction sector which leaves the economy vulnerable to shocks and also external risks such as the US economy which is currently on an unsustainable growth path) remain that can impede development in the future.

A key driver of economic success has been the availability of a skilled labour force, with over 2 million people in employment and labour force participation rates for both males and females having increased significantly, yet sustaining the necessary labour force expansion in the long-term represents a key challenge.

Falling fertility rates mean that going forward the working age population is likely to remain fairly static in Ireland, even allowing for significant in-migration. As a consequence, the number of older people (past the current working age) will constitute a larger proportion of society as a whole. Resources must therefore be in place to support the income needs of older people in retirement, and pension coverage is a critical factor in ensuring that this is the case.

3.3 National Savings

3.3.1 Impact on Overall Aggregate Savings

A key outcome from the establishment of mandatory pension provision is the raising of saving rates above the levels that are currently being achieved on a voluntary basis. In this way mandatory pension contributions can be thought of as a form of compulsory savings. It can be argued that they counteract the savings behaviour of some individuals who are not currently putting aside funds for their retirement.

However, there exists an alternative life-cycle theory that suggests that any mandatory savings do not have the impact of increasing provision for later life, but merely reduce the extent to which voluntary saving takes place. It assumes that voluntary savings are reduced by the same amount as mandatory contributions because resources are transferred between different portfolios of assets that act as perfect substitutes. It is also based on the principle that individuals are currently acting rationally, saving at the preferred level for their retirement. Such a reduction in other forms of savings due to an increase in mandatory pension contributions would leave aggregate savings intact. A further potential effect is the borrowing against future pension guarantees by individuals, whereby no additional savings arise.

However, there is evidence which suggests that reducing the substitution of savings in the design of a mandatory pension model will result in an aggregate increase in savings. A key mechanism for achieving this would be the setting of the mandatory savings rate at a higher level than the voluntary savings rate that would have occurred without such an intervention. If the mandatory contribution rate is fixed at only a few percent, it has been found that workers can easily offset their contributions

by reducing other forms of savings and increasing debt², making the overall impact on aggregate savings negligible.

In general, international research supports the view that – if properly designed and delivered accordingly – mandatory savings will increase aggregate savings. A World Bank (2004)³ paper concluded that overall national saving levels increased by more than 50% of the increase in mandatory pension saving when such a scheme was introduced, drawn from research using an unbalanced⁴ panel of 43 countries. Such an experience was confirmed in Chile, where the savings rate increased sharply after the introduction of a mandatory pension contribution rate, although it is difficult to determine the extent to which this can be fully attributed to the introduction of the scheme.⁵

A Reserve Bank of Australia paper (2004)⁶ found that in that country only part of compulsory superannuation contributions have been offset by reductions in other savings, suggesting that – other things being equal – compulsory superannuation has indeed resulted in higher levels of household saving. The authors estimated that 38 cents of each dollar in superannuation contributions were offset, or in other words, 62 cents in each dollar had been saved additionally. However this additional savings rate varied across different income groups, with those earning higher incomes more able to reduce other savings or borrow more, while those reliant on lower income were unable to increase borrowing because of credit constraints.

The authors used these estimates to construct a counterfactual saving rate, which suggested that superannuation may have increased the household saving rate by up to 2% in recent years. Their results therefore suggest that government policies encouraging superannuation have added to both household savings and wealth. These findings were reinforced by a further study projecting that the impact of the mandatory scheme would be to increase national savings by approximately 3.6% of GDP by 2020.⁷

As with each of the economic impacts discussed, the design and delivery of the mandatory pension scheme will determine the magnitude of the impact on national savings (see below). This is highlighted in the work undertaken by Life Strategies/ESRI as part of the NPR. In this work, the authors found that four out of the five models considered were likely to raise household savings. In contrast, under varying assumptions for their work taken in parallel with this study, the four models

² Turner, John A., *Economic Analysis of Mandatory Defined Contribution Pension Systems*, ILO October 1997.

³ Lopez Murphy, Pablo and Musalem, Alberto R., *Pension Funds and National Saving*, Policy Research Working Paper Series 3410, The World Bank, August 2004.

⁴ Unbalanced since the number of time series observations differ considerably across countries.

⁵ World Bank, *Averting the Old Age Crisis: Policies to Protect the old and Promote Growth*, Oxford University Press: Oxford, 1994.

⁶ Connolly, Ellis and Kohler, Marion, *The Impact of Superannuation on Household Saving*, Reserve Bank of Australia, March 2004

⁷ Bateman, Hazel and Piggott, John, *Australia's Mandatory Retirement Saving Policy: A View from the New Millennium*, The Social Protection Advisory Service, The World Bank, March 2001.

of mandatory pension provisions proved to have a negative impact under on the personal savings rate.

3.3.2 Design and Delivery Issues

While most international literature shows that mandatory pension provision can have overall positive impact on aggregate savings levels, a number of issues have been identified regarding the design and delivery of such schemes that determine the extent to which national savings increase or decrease.

An OECD (1997)⁸ paper highlighted a number of critical success factors in achieving an overall increase in national savings following the introduction of a mandatory pension system. These included:

- stimulation of a positive savings impact from the lower savers group;
- limitation of the negative income effect on savings that may be derived from higher implicit rates of return on tax-exempt funded pensions;
- control of tax exemptions on pension returns to ensure that they are limited to low savers or that pension returns are taxable like the returns on other savings;
- discouragement of individuals from borrowing against accumulated and mandatory pension assets.

The authors also suggested that mandatory pension schemes that cover the low-savers group effectively not only stimulate current savings but also serve as an important policy vehicle to help make retirement income levels and wealth distribution more equal between high and low savers.

Within the Chilean defined contribution system, three features were identified by Turner (1997)⁹ that potentially generated a negative impact on savings. These should be borne in mind in the development of any mandatory pension provision model and can be summarised as follows:

- Inclusion of both a means tested benefit and a minimum benefit reduces the incentive for low income workers to save for retirement. Low income workers are induced not to save because the marginal increase in future income above the means tested benefit or minimum benefit may be small;
- Government expenditure to finance the transition to the new defined contribution system reduced Government savings;

⁸ Bailliu, Jeanine and Reisen, Helmut, *Do Funded Pensions contribute to Higher Aggregate Savings? A Cross-Country Analysis*, Working Paper No. 130, OECD Development Centre, December 1997

⁹ Turner, John A., *Economic Analysis of Mandatory Defined Contribution Pension Systems*, ILO October 1997.

- Defined contribution plans may have the effect of reducing savings, measured in terms of the accrual of assets, if they have a low rate of return. This can result from Government regulations that increase their costs and limit their investment portfolios to low risk assets.

Finally, a World Bank (2004)¹⁰ paper put forward a number of points for consideration in the adoption of a proposed mechanism for mandatory pension saving:

- first, the development of a pension savings scheme, or contractual saving in general, can generate a better functioning of capital markets that in turn can contribute to higher levels of saving;
- second, a funded system with explicit, direct links between contributions and benefits can increase savings by generating awareness of the importance of saving;
- third, individuals might consider mandatory pension savings as an imperfect substitute of ordinary saving due to liquidity considerations;
- fourth, individuals might consider mandatory pension saving and ordinary savings as perfect substitutes, but could then be forced to accumulate more assets than would otherwise be the case, and therefore have trouble offsetting pension accumulation (e.g. borrowing constraints);
- finally, levels of voluntary savings by individuals might remain unaffected by forced savings via a mandatory scheme, thereby increasing aggregate savings.

A further consideration is that the purpose for which an individual saves will also have a bearing on the degree of substitutability between voluntary and mandatory savings. For example, if savings are for inheritance, or for a rainy day, they will not serve as a substitute for mandatory pension provision.

The limited international literature reviewed on experience elsewhere suggests that mandatory pension systems can, depending on their design and delivery, increase national savings. However, the discussion in the previous section also highlighted that there are a number of factors which could induce negative impacts on savings. This is confirmed by the various work by Life Strategies/ESRI in this area, with various models (and corresponding assumptions) resulting in different outcomes.

In summary, the international research suggests that the planning of any mandatory pension provision should recognise that the higher the required contribution rate (above current voluntary saving levels), and the lower the opportunities for individuals to offset mandatory savings, the

¹⁰ Lopez Murphy, Pablo and Musalem, Alberto R., *Pension Funds and National Saving*, Policy Research Working Paper Series 3410, The World Bank, August 2004

greater the possible increase that will result in the overall savings rate.

3.4 Fiscal Balance

3.4.1 *Net Exchequer Cost of Provision Components*

As is the case in relation to national savings, the impact of the introduction of a mandatory pension system on fiscal balance (i.e. the difference between general government receipts from taxation and expenditure), will be dependent on design and delivery of the pension model that is introduced. Different models of mandatory pension provision will impact to varying degrees on a series of components that together comprise the net Exchequer cost of provision. In the Irish context these components include:

- Cost of Pillar 1 pensions;
- Cost of public service pensions;
- PRSI receipts;
- Net transfers to/from the National Pension Reserve Fund;
- Net cost of voluntary Pillar 2 provision (i.e. the cost of tax relief on voluntary contributions and tax forgone on investment income/gains, less tax collected from voluntary pension provision);
- Cost of tax relief on mandatory pensions (where relevant);
- Tax collected from pensions in payment arising from mandatory provision.

An estimate of the cost implications that might arise under each of these components has been provided by Life Strategies for various potential mandatory pension models, based on a range of scenarios. This exercise, which has run in tandem with our study, remains a separate and distinct piece of work, but the nature of the different costs involved remains pertinent to this assessment of economic considerations.

It is also important to acknowledge that the cost implications of introduction of mandatory pension systems are significant regardless of the model selected for this purpose, and the cost of implementation must always be a central consideration in any decision to progress with this approach. Costs will not only be incurred at the outset, but substantial expense will be involved in operating any new mandatory pension scheme. Therefore in the long-term Exchequer costs of sustaining a mandatory pension scheme would generate a significant tax burden. The economic impact of the policy-trade in this regard will be a particular concern, as if public expenditure is

prioritised on mandatory pensions over competing demands the opportunity cost of this prioritisation must be taken into account.

3.4.2 Government Expenditure

If mandatory pension systems are financed on a pay as you go basis, Government finances benefit in the short-term. Over time, however, the benefits decline and ultimately reverse as additional mandatory pension payments exceed the mandatory contributions. The National Pensions Review noted that if compulsory savings are paid to Government and not to private financial institutions, the contributions would then be accessible to finance current Government expenditure. This could then result in increases in the level of household savings being offset by corresponding decreases in the level of Government saving. Although in practice it would seem unlikely that the Government would adopt such an approach to managing expenditure, there does nonetheless exist the possibility that contributions could be used in this way. Therefore it may be worthwhile considering the introduction of a ring-fencing mechanism to ensure that funds paid to the Government under a compulsory scheme are used for future pension payments.

The need to consider such a prudent approach to the operation of a system where contributions are made directly to the Government is reinforced by the findings of a World Bank study in 1994. It found evidence that in some cases governments have borrowed from provident funds at below market interest rates, cutting future pension benefits and current public borrowing costs. It was noted that these low rates could increase public deficits if they induce the Government to spend more on other goods and services.¹¹ The inherent danger in this regard is that spending, financed by mandatory pension contributions that effectively become a tax on workers, becomes counter-productive. Decentralised pension schemes that charge market rates avoid this danger. However if the Government guarantees their benefits, this constitutes another state obligation that could become increasingly significant if strategic manipulation and moral hazard are not controlled (e.g. by setting up a NPRF-type system for extra contributions).

3.4.3 Tax Incentives

Tax incentives are not essential for mandatory schemes, but they improve compliance and are therefore common in countries where this approach has been adopted. In considering introduction of an incentive scheme in support of mandatory provision, it will be important to take account of the knock-on effect of reduced tax contributions, as these may then result in reduction in Government spending or increases in other taxes.

Contributions to most mandatory saving schemes are deductible for income tax, as is the current investment income from the funds. For example, workers in Chile were allowed to contribute

additional amounts on a voluntary tax-exempt basis. In most schemes, withdrawals are subject to tax, like any other income. The benefits of tax deferral are greater for higher-income workers, because their initial tax savings are higher and they are likely to be in a lower tax bracket after retirement. To avoid this regressive redistribution impact, limits may be placed on tax benefits or a tax credit may be offered in place of making contributions tax-deductible, as has been proposed for some occupational plans.

In the past Malaysia and Singapore exempted both the contributions and the withdrawals from taxation. The total tax benefits of Singapore's national provident fund (and the government tax revenue forgone) were estimated to amount to slightly more than 1% of GDP (1987). The Singapore fund thus provided a valuable tax shelter for contributors, especially high income workers who would be subject to higher marginal tax rates on other investment income. World Bank research pinpointed increased tax benefits as a key factor in national policy decisions that set high contribution rates and low interest rates.¹²

The impact of introducing mandatory pension provision on fiscal balance depends on a number of factors including contribution rates, tax incentives available, revenues generated, the body taking receipt of the contributions, and ultimate use of the contributions. Although international research on this subject is relatively sparse, it would appear that the two main risks in implementation surround Government deployment of contributions for current expenditure purposes and the redistributive effects of tax incentive systems. In the former case, this can negate any impact on increasing household saving. In the latter, unilateral tax incentives can cause regressive redistribution of wealth between high and lower earners. Planning of mandatory pension provision must therefore guard against these occurrences.

3.5 The Labour Market

Implementation of a mandatory pension scheme raises a number of issues with regard to the labour market. An increase in both employer and employee contributions as a result of the introduction of such provision will subsequently affect labour costs, and this can subsequently generate a range of economic impacts.

Firstly, additional employer contributions under a mandatory scheme (assuming real wages are held constant) will increase employment costs. In the short term this will result in higher gross wages,

¹¹ World Bank, *Averting the Old Age Crisis: Policies to Protect the old and Promote Growth*, Oxford University Press: Oxford, 1994.

¹² World Bank, *Averting the Old Age Crisis: Policies to Protect the old and Promote Growth*, Oxford University Press: Oxford, 1994.

and could then have repercussions in terms of higher prices being passed on to consumers, an impact that was forecast in research conducted by ESRI for the National Pensions Review. This would be of considerable concern in sectors which are labour intensive, such as tourism, although this impact may not be as significant in key industries such as internationally traded services or high-technology manufacturing. Companies operating within particularly tight profit margins will also experience additional difficulties. Those employers that are not currently making contributions may find it difficult to provide for this added requirement, and a reduction in labour demand could result. In the medium to long term this pattern could be repeated across all employers required to make mandatory contributions, with labour demand decreasing as a consequence of the rise in costs. In a competitive labour market this would then lead to a lower wages. In this way, employees are absorbing some of the cost of the additional contributions (even though the contributions are levied solely on the employer). This impact may be expected to be less prevalent in Ireland than for other economies due to its vibrant labour market and position at close to full employment in the short/medium term. Again, this may differ on a sector-by-sector basis.

The reverse is true in the case of the mandatory contribution levied on the employee. In this respect there is a danger that labour participation rates may fall as fewer individuals choose to enter the labour market with what is perceived to be a higher level of 'taxation' now in place. This would be especially true among groups at lower income levels, as this increased 'tax' may, depending on how it is levied, constitute a large percentage of their salary. Although contributions are deducted from the employee's wages, the overall burden is therefore partly borne by the employer through higher wages resulting from a contraction in labour supply. Those currently on the margins of the labour market, e.g. women working in the home, may also be deterred from entering the labour force given the perceived additional employment costs.

Regardless of the scale of the impacts noted above, it is clear that the financial burden of the introduction of a mandatory scheme is shared between employers and employees, with the precise share being determined by the relative elasticities of labour supply and labour demand in relation to increased taxes. The elasticity of labour demand and supply can be controlled somewhat by Government policies (e.g. level of social welfare benefits), and Exchequer contributions will have a similar impact (e.g. via tax incentives), but it should be noted that these would have to be financed via other taxation.

International research highlights some likely labour market impacts of mandatory pension contributions, and confirms the hypotheses outlined above. Turner (1997) states that with high mandatory contribution rates in a defined contribution scheme, workers may be motivated to evade contributions. This can occur through simple non-payment, or it may take the form of a distortion in labour supply, with workers being forced into the informal sector to avoid the high mandatory pension contributions.

In relation to mandatory personal saving plans¹³, a World Bank research paper (1994)¹⁴ debated the issue of labour market impact and found that unlike public or occupational plans, these personal plans have relatively little impact on the labour market. This is because workers eventually recoup their contributions with interest, and as a consequence they may be less likely to see these as taxes. Also there is no penalty for mobility, which otherwise might effect the labour market. However some distortions were acknowledged, consistent with the hypotheses outlined above. When contribution rates are set above the household's desired savings rate (the main reason for a mandatory system), incentives to evade contributions by understating covered wages or leaving the labour market do arise. If workers cannot evade they may be induced, by their higher accumulated savings and compulsory savings rate, to retire early (if this facility is allowed). Thus mandatory saving plans may reduce the supply of labour, especially experienced labour, in the formal sector.

This may be especially true as a consequence of changing employment patterns within Ireland. In general, workers are now much more mobile, typically having multiple employers over their lifetime. Turnover of employers has a knock-on impact of the administration costs of a mandatory pension scheme, and may also increase the danger of losing track of an employee, hence raising the potential for evasion as noted above. Work-life balance is also a growing labour market issue, and more and more individuals are taking time out from work to pursue educational goals, spend time with family, travel and attend to other matters, and this will make them much more flexible in attitude towards participation in the labour market. Such changing attitudes may therefore increase the labour market impact of mandatory pension provision in the future, as the associated costs of participation become more outweighed by the value placed by an individual on non-work time. Lifelong learning will be a further critical emerging issue with regard to work patterns in the future, and it is essential that mandatory provision does not discourage participation in learning activity on an ongoing basis as a result of the incremental cost it levies on individuals.

A further consideration is that wage rigidities may prevent employers from shifting their share of payroll tax to workers, with a negative employment impact occurring. Singapore seems to have experienced this effect in 1984, when it raised the contribution rate to 50% of wages, shared equally between employers and employees. The employers' rate was cut in half the following year because of the belief that this had affected employment adversely. Both of these factors imply a tax element that distorts the labour market and limits the implementation of an efficient contribution rate.

In Australia the Superannuation Guarantee is not generally thought to have had major labour market consequences. The Government adopted a phased approach, which allowed the labour market to

¹³ Where contributions are deposited in personal accounts and benefits available in old age depend on these contributions and the investment income they earn.

¹⁴ World Bank, *Averting the Old Age Crisis: Policies to Protect the old and Promote Growth*, Oxford University Press: Oxford, 1994.

react. The accumulation effects and mandatory nature of the policy, while altering the time profile of labour payments, are not seen as having major impact on overall levels of compensation. A proactive education policy, informing employees of the benefits of contribution and discouraging perceptions of it as a tax, was also considered to have made an important contribution in this regard. This may be something of an oversimplification however. It is thought that once the scheme matures, old age pension entitlements will be affected by the Superannuation Guarantee accumulations. Further short-term wage rigidities may lead to increased labour costs resulting from the mandatory employer contribution. However, it is widely considered that in the long term the impacts will be minor.¹⁵

A final consideration, particularly pertinent to Ireland, is the potential impact on the additional supply of migrant workers (30,000 are needed each year up to 2010¹⁶) needed to sustain high levels of economic growth. It may be argued that an additional cost to be borne by employees may be viewed as a disincentive to come to the country to work. That said, in the international context, Ireland currently has comparatively low direct employee payroll taxes which may offset the negative impact in this regard.

¹⁵ Bateman, Hazel and Piggott, John, *Private Pensions in OECD Countries – Australia*, Labour Market and Social Policy Occasional Papers – No 23, OECD, 1997.

¹⁶ See FÁS publication “Building on our Vision FÁS Statement of Strategy 2006-2009”

A range of contrasting views as to the impact of mandatory pension schemes on the labour market emerge from international literature. There is a real risk of such provision resulting in a decrease in employment levels, with the mandatory contributions acting like a tax, decreasing labour demand (when employer contributions are involved) and reducing labour supply (when levied on employees).

The level of impact on the labour market will depend on the design and delivery of the mandatory pension model, and would be expected to be most strongly felt in labour-intensive industries and among employers that had not previously made pension contributions. It could also act as a greater deterrent to labour market participation for those on a lower income levels, and those outside the labour market who may be considering taking employment, e.g. women working in the home.

The elasticity of labour demand and supply can be influenced somewhat by Government policies (e.g. level of social welfare benefits). Exchequer contributions (e.g. via tax incentives) will have a similar impact, as these will have to be financed through taxation.

Also, the available international literature on this issue shows that a number of approaches may be adopted to lessen the negative labour market impact of mandatory pension provision. A phased introduction could prove beneficial, as this avoids shocks and allows the labour market time to react and plan accordingly. Informing employees as to the benefits of contribution, and discouraging them from perceiving it as a tax, may also help to reduce any negative labour market impact.

3.6 Competitiveness

In simplest terms, competitiveness relates to the ability of a nation or firm to sell competitive goods or services in international trade. One particular aspect of this which is particularly impacted by mandatory pension provision (and that is much discussed in Ireland at present), is price competitiveness. Price competitiveness is determined by productivity, profit margins, the exchange rate, and most importantly for this analysis, input prices, which includes real wages (together with material prices and the cost of capital).

As detailed extensively in the previous section, mandatory pensions may impose additional costs on employers, especially those who are not currently making pension contributions. This could increase pressures on competitiveness, as employment costs increase. The risk of reduction in the labour supply as a result of perceived higher 'taxes' would also potentially have a negative impact on national competitiveness. If such difficulties result, with the extent to which they might occur determined by a wide range of variables, it would be expected that labour-intensive industries would suffer most in terms of competitiveness, and particularly international competitiveness. A further knock-on impact may be the hindering of attraction of skilled migrants to meet the ongoing labour market needs of the economy.

A final consideration with regard to competitiveness is that the introduction of a mandatory pension scheme which adds to employment costs may act as a disincentive for Foreign Direct Investment (FDI), as against the current situation. This depends somewhat on the pension policies in the countries with which we compete for FDI. However it must be acknowledged that any potential multi-national inward investor will make its investment decision based on a wide range of factors, with the tax regime present in each of the potential investment locations typically one of these factors. The attraction of FDI has been central to Irish growth performance, with a far greater reliance on FDI inflows than larger more closed EU economies. Ensuring that any scheme is implemented in a manner that minimises the risk of it being perceived as an overly interventionist approach will therefore be a prime consideration.

Considering the implementation of a quasi-mandatory scheme in this respect may be one option. Such a scheme, where although not obligatory for all, is taken up by the vast majority of the population as a result of union ties, flexibility of access or generally acknowledged benefit, has been successfully adopted in countries such as Denmark, where it is operated by the social partners and covers 80% of the active population. A quasi-mandatory scheme would however be more difficult to implement in Ireland as a result of lower levels of unionisation, an increasing trend. A quasi-mandatory scheme would certainly, however, reduce perceptions of pension provision being viewed as an additional tax, particularly if contributions were not made to Government but to another agency.

The impact of a mandatory pension system on national competitiveness closely relates to the impact on the labour market discussed above. If labour costs do rise, and labour supply decreases, other things being equal a negative impact in terms of overall competitiveness will result. The introduction of a mandatory scheme may also have some impact on how Ireland is perceived by potential inward investors.

3.7 Potential Growth Rates

Economic growth, which is usually measured as the increase in output in terms of Gross Domestic Product (GDP) and Gross National Product (GNP), has a number of determinants. These include inputs such as labour, capital and natural resources, and/or greater productivity. The relationship between mandatory pension provision and economic growth is therefore linked to the previous discussions regarding impact on the labour market and hence competitiveness.

The goal of mandatory pension provision is to increase savings now, in order to pay for increasing costs in the future. However as has been shown above, in the worst case scenario, this could result

in the following economic impacts, over and above the actual revenues gathered by a mandatory contribution scheme:

- decreasing labour demand and labour supply;
- contraction in wages and personal disposable income, and in resultant demand for goods and services;
- the deadweight loss of the introduction of the scheme in relation to output as a consequence of the above, which is a loss of economic welfare beyond the tax revenues collected.

However, pension reform may also, under certain circumstances, generate some positive impacts with regard to economic growth. If mandatory pensions result in increased national savings, and these higher savings are translated into more productive investment, this investment could result in increased output. Davis and Hu (2004) point to a number of studies which indicate that reform in Chile may have led to an improvement in economic growth, via raised saving and private investment rates. However, these are tentative studies, and improvements in economic growth were attributable to pension and other economic reforms in general, and not mandatory pension provision alone.¹⁷ It is also important to note that Chile's economy is not as open as Ireland's and therefore Irish savings are less likely to stay in Ireland.

Within Ireland, Life Strategies/ESRI completed work for the National Pensions Review, supplemented by the additional exercises being undertaken in parallel with this study, which focused on establishment of the net impact of introduction of various mandatory pension models on economic growth. This forecasts largely negative impacts across a range of key economic indicators from 2007 to 2011, including real GDP, real GNP, employment, unemployment and real personal disposable income, regardless of the mandatory pension model adopted. Table 3.1 highlights these findings across each of the four models tested over the period, assuming that they are introduced in 2007. The figures represent the predicted percentage change in the indicators compared to the 'do nothing' scenario. The design and implementation of each model differs, and as such has different impact on growth rates. Also the figures fluctuate depending on what year you examine.

TABLE 3.1: IMPACT OF MANDATORY PENSION SCHEMES ON ECONOMIC VARIABLES, COMPARED TO THE BASE SITUATION (YEAR 2007/2011)				
	Model 1	Model 2	Model 3	Model 4
Real GDP	-3.3	-0.68	-0.70	-1.35
Real GNP	-0.9	-0.31	-0.32	-0.30
Employment	-3.1	-0.68	-0.70	-1.18
Unemployment Rate	0.7	0.38	0.39	0.25
Real Personal Disposable Income	-13.7	-2.83	-2.90	-5.62
SOURCE: RESULTS FROM THE ESRI HERMES MODEL				

¹⁷ Davis, E Philip and Hu, Yu-Wei, *Saving, Funding and Economic Growth*, Public Policy Discussion Papers from Economics and Finance Section, Brunel University, October 2004

The fact that in all cases ESRI projections show that the mandatory models under consideration have a negative impact on growth rates is consistent with the previous discussions in this report, which highlighted potential negative impacts on the labour market, competitiveness and indeed economic growth in general. It suggests that in general, the introduction of a mandatory pension scheme has a similar impact to the introduction of a new tax, and that the benefits of such provision in the short-term are outweighed by the costs in terms of the primary economic indicators.¹⁸

Economic growth impact from mandatory pension provision is intrinsically linked to the issues of both labour demand and supply and national competitiveness discussed above. Some positive impacts in terms of growth can result from implementation of a scheme, with increased levels of aggregate national savings experienced in some cases which might then be translated into more productive investment and hence an expansion in output. However, the potential negative economic effects in terms of GDP growth and contraction of employment counter any such potential benefits, and pension systems are primarily a distributive rather than a production enhancing device. This view is confirmed by ESRI forecasts for a range of key economic indicators over the 2007-11 period, assuming adoption of four different mandatory models. In general it would seem that the implementation of a mandatory scheme would generate similar effects to those of any new national tax. The extent of the negative impact on growth rates will be determined by the design and delivery issues outlined above.

3.8 Other Considerations

A number of other considerations in terms of economic impact were identified from the review of international literature. These are each discussed in turn below.

3.8.1 *Impact on Existing Occupational Pension Schemes*

There has been much debate in international literature as to the effect of the introduction of a mandatory pension scheme on those currently participating in existing voluntary occupational schemes. It has been argued that, where minimum contribution levels are set, those employers making contributions above this minimum percentage will regress to this level for existing employees, and/or only offer this contribution to new employees. However this assumes that approaches are highly flexible and contributions can be changed in a timely and straightforward manner. In practice any attempt to reduce employer contributions in major firms would be expected to have labour relations repercussions, and it is unlikely that employees would accept the reduction

¹⁸ A number of international econometric studies have found negative effect of increase in taxation on GDP growth, although the impact would differ depending on the nature of the tax, economic characteristics of a country etc. An overview of the relevant studies is provided in Leach, Graeme, *The negative impact of taxation on economic growth – New edition*, Reform, September 2003

without any corresponding increase in wages to offset the decrease in pension contributions. The employer would also be constrained by the tightness of the Irish labour market, a situation that would limit the extent to which employees could be replaced, and it is unlikely that any such developments could progress without significant negotiations.

Nevertheless if a mandatory pension scheme is introduced with contribution levels below that offered in voluntary schemes, there may be a tendency for this prescribed minimum rate to be adopted as standard practice for voluntary provision. Such a scenario is based on the following assumptions:

- contributors and their employers may understand the mandatory contribution as being what is necessary as an adequate retirement income rather than recognising it as a minimum;
- employers may see no competitive advantage in providing benefits above those mandated, particularly if employees are unaware of the value of pension benefits. In any case employees may prefer extra pay to pension. However as employers currently provide voluntary contributions to pension schemes, it is unlikely that their rationale for doing so would change post the introduction of mandatory pension provision, given that pension contribution are seen as the overall remuneration package;
- the integration of the mandatory systems with existing arrangements may be complex and may eventually have the effect of discouraging voluntary occupational schemes. The greatest problems are likely to arise in relation to DB schemes, as integrating them with mandatory DC schemes represents a highly complex matter, and the costs of complying with regulations may be overly prohibitive.

3.8.2 Regressivity Considerations

It was noted earlier in this report that the introduction of unilateral tax incentives alongside mandatory schemes could result in an unintended regressive redistribution of wealth. There is however some concern that mandatory schemes themselves may generate regressive impacts under certain conditions. Regressivity arises where payments relative to earnings are greater for those individuals within lower income bands than for their counterparts in higher bands. Turner (1997) noted that it is only when the rate of return net of expenses is constant across income class that such impacts are avoided. However this research goes on to highlight that for this constant rate of return to be realised, administrative costs would have to be allocated equally across all money invested, all income bands would have to invest in the same portfolio, and benefits would have to recognise differences in life expectancy across different bands. Clearly this is not usually feasible in practice and as a consequence schemes can tend to be regressive in nature. Thus in order to avoid, as far as possible, regressive impacts from the introduction of mandatory pension provision, the design of any system should take account of the payments and likely term of draw down for different social classes.

3.8.3 Contribution Evasion

As noted within the discussion on labour market impacts, the introduction of a mandatory scheme could be expected to increase the risk of contribution evasion by non-declaration of income or by leaving the formal labour market entirely. International literature has focused further on the problem of contribution evasion, and particularly interesting research exists in relation to the Chilean experience. Evasion occurs for several reasons, most of which apply equally for defined benefit and defined contribution systems (Bailey and Turner 1998). Turner (1997) identified high rates of evasion in Chile, where providing low income workers with a guaranteed minimum benefit reduced their incentive to contribute and there was a general perception that there was little relationship between level of contributions and level of future benefits. Evasion was most prevalent, as would be expected, among those employees and employers experiencing the greatest financial hardship. Indeed evasion by employers was found to be a significant problem, with 150,000 cases pending against employers in Chile in 1996 who had failed to remit worker contributions to the pension fund management companies (Economic Intelligence Unit 1996). This is the worst form of contribution evasion since it amounts to employers defrauding employees of their own contributions. In order to avoid such difficulties, the design of any defined contribution mandatory scheme should seek, as far as possible, to guard against offering lower rates of return on contributions than would be the case for other investments, as this acts as a major source of motivation for evasion.

3.8.4 Retirement Decision

Mandatory defined contribution plans may impact upon retirement age in several ways. By retiring at the earliest possible age with non-annuitized benefits, it was noted that low income workers in Chile may be able to qualify later for government subsidised minimum benefits after they have run down their pension contributions. Research has also identified the likelihood of a similar strategy being used by low income workers in Australia in order to qualify for government provided benefits. There may also be random distortions on retirement decisions in defined contribution plans due to the effect of changes in the interest rate on the level of monthly benefits provided by an annuity. Workers may postpone or advance their retirement date depending on when they expect annuity markets to be relatively favourable.

4. Implications for Potential Irish Models

4.1 Introduction

The analysis of international experience in the previous chapters has provided a broad understanding of the issues to be considered in evaluating the introduction of a mandatory or quasi-mandatory pension scheme in Ireland. It is worthwhile concluding this research by examining the implications from the findings for the specific models currently being considered, on which the ESRI and Life Strategies have been conducting analysis in tandem with this exercise.

4.2 Proposed Models

It was highlighted earlier in this report how ESRI had forecast the potential economic impact of four models (M1, M2, M3 and M4) of mandatory pension provision should they be introduced in Ireland. Two of the three primary models currently under consideration draw on this analysis, and each of the three can be summarised as follows:

- Model A, based on the assumptions used for M1 in the ESRI analysis, with the State Retirement Pension increased to 50% of gross average industrial earnings (GAIE).
- Model B, based on the general principles governing M2, M3 and M4 in the ESRI analysis, involving a supplementary system with a contribution rate of 15%, with 5% provided by the Exchequer, and the remainder split between employer and employee contributions, with options of immediate introduction or phasing in over a ten year period.
- Model C, a hybrid model combining the above components assuming a State Retirement Pension of 40% of GAIE and a supplementary system with a contribution rate of 15%, a lower contribution threshold of approximately €15,000 and an upper earnings limit of €60,000.

4.3 Implications for Each Model

4.3.1 Model A

Raising the Old Age Contributory Pension Component of PRSI contributions in order to provide for a retirement income of 50% of GAIE undoubtedly represents the most straightforward option from a logistical perspective. If the PRSI contributions are increased to fully provide for future pension payments under this scheme, it could represent the most cost-effective option in terms of fiscal balance.

However the dangers of mandatory pensions schemes being viewed as a tax by both employers and employees have been highlighted throughout this document and this impact would be greatest if contributions are sourced in this manner. It could be expected, therefore, that introduction of this scheme would have a more negative effect on the labour market than supplementary systems. The costs associated with entering the labour force for those recipients of social welfare payments would act as a greater deterrent to participation, while potential foreign migrant workers may be discouraged from relocating to Ireland by what is seen as too great a tax burden on their earnings. The scale of this impact in comparison with supplementary systems would be dependent on what extent perceptions of additional contributions change if they can be more directly attributed to future pension payments (as in a supplementary system). For the employer, the impact will be dependent on increases in their PRSI contributions as a result of Government adopting this approach. If the costs of labour are perceived to have risen significantly in this regard, it may result in a reduction in labour demand.

Any notable increases in PRSI contributions for employers or employees may also have a knock-on impact on external perceptions of the tax regime within Ireland. As noted previously, potential inward investors base their investment decisions on a range of factors, of which the national approach to taxation is one. The introduction of an entirely state-run, PRSI based scheme may have a negative impact on competitiveness in this regard, as there is a risk of it being perceived as overly interventionist.

There can also be expected to be some reduction in voluntary pension contributions as a result of the introduction of a scheme that guarantees 50% of GAIE on retirement, although this may not be as exaggerated as under a supplementary scheme, as contributions are going into a central 'pot' and the benefits generated from them will not be related to the initial payments.

4.3.2 Model B

A range of issues have been highlighted throughout this report with regard to Model B, and some of the implications of its introduction will be dependent on factors such as how and when it is implemented and the employer/employee contribution split. In general, we have found that the introduction of such a scheme could potentially generate an overall positive impact in terms of savings. Although some individuals currently contributing to voluntary schemes may reduce their overall contribution levels to those prescribed by the mandatory scheme, such an effect could be more than countered by those making pension contributions for the first time. An overall positive impact on savings was confirmed by World Bank research into the introduction of mandatory pension provision in 43 countries, and further confirmation has been provided by the Australian experience. As part of the work for the NPR, the Life Strategies/ESRI models with characteristics similar to this scheme resulted in an increase in household savings. However, under different assumptions for their work taken in parallel to this study, models M2 – M4 showed a slight negative

net impact on personal savings (although significantly less than the reduction under Model A, or M1 in their analysis).

In terms of the labour market, the introduction of a mandatory supplementary scheme will have some impact on the costs of participation in the labour force and may then reduce labour supply. The requirement for employer contributions could also result in lower levels of employment, while employers already making voluntary contributions may reduce these down to mandatory levels. However, this system will demonstrate direct links between contributions and future pension income, and as such it may be viewed as less of a tax and more of an investment. This was the experience in Australia, where the negative impact in terms of the labour market is considered to have been minor.

The most effective systems internationally would demonstrate a fairly even balance in terms of employer and employee contribution rates and it is likely that this approach would minimise the negative impact on the labour market, with neither group perceiving that they are being asked to shoulder an overly harsh burden.

The decision on whether to implement any supplementary pension scheme immediately or gradually over a period of time (10 years is proposed within the model) could also be expected to have implications in terms of overall impact. International research suggested that if the latter phasing approach is adopted the impact on the labour market will be reduced as it will allow employers and indeed employees time to consider the changes and react and plan accordingly.

Finally, it has been noted that the setting of high contribution rates under supplementary schemes increases the risk of evasion. The proposed rate of 15%, comprising Exchequer, employer and employee contributions should avoid such difficulties however, as where problems have arisen the overall contribution rate has been significantly higher.

4.3.3 Model C

Model C, a hybrid model combining the above two different systems would generate similar implications to those described above. The costs involved in establishing such a scheme could be the most significant of the three models under consideration, as it involves both the setting up of a supplementary scheme and changes to the Old Age Contributory Pension component of PRSI.

It would protect low income groups by guaranteeing a greater minimum retirement income via increased PRSI payments, but would also require individuals to make their own provisions for retirement in addition to state assistance. It would appear to offer the greatest potential for maximising future pension income per household, while not placing the entire onus on individuals to generate a sufficient income in retirement from their current contributions.

The impact on the labour market would again relate to what extent changes are perceived as an increase in taxation, and there is always the danger that this is strongly the case in any increase in PRSI contributions. The negative impact on the labour market would therefore be expected to be more than that of a purely supplementary scheme, but less than a purely PRSI-based scheme. Concerns over competitiveness may also arise in this regard as noted above due to concerns from potential inward investors that the system represents an additional tax burden for employers.

This report has noted that mandatory pension schemes can risk regressive impacts, and this proposed model does include provisions that would help to address such factors. Schemes are regressive where payments relative to earnings are greater for those individuals within lower income bands than their counterparts in higher bands. Clearly the PRSI element of the model is not regressive and is related to the minimum income of 40% of GAIE. However the supplementary scheme can act in this way as it may require full contributions from low income groups which result in very little return above this 40% level. Lower income groups also have less capacity to forgo an additional 5 to 10% of their earning. The introduction of a threshold of around €15,000, where income up to this point would not require a contribution, should ease the burden for those that are less well-off. The introduction of an upper earnings limit of €60,000 will also protect the scheme from being used by higher income groups as an investment opportunity in preference to other investment options, due to the Exchequer and employer contribution components.

4.4 Summary of Issues and Synergy with ESRI Findings

The issues discussed under each proposed model are summarised in Table 4.1 in order to summarise the key points worthy of consideration in appraising the introduction of mandatory pension provision, based on international research. For the most part, the ESRI findings with regard to economic impact would confirm the impacts that are suggested in this report, although the hybrid Model C was not formally tested in this manner. The ESRI analysis, highlighted in Table 3.1 earlier in this report, confirms that the impact on overall competitiveness is greatest under Model A (or M1), a purely PRSI-based approach. This reflects the risk of pension provision being perceived as additional taxation by employers, employees and potential inward investors. The labour market impact of Model A, as emphasised in our own analysis, would also be significant with a reduction in employment and an expansion in unemployment forecast by ESRI over the 2007-2011 period.

For Model B (M2, M3, M4), the ESRI analysis confirms some negative impact in relation to competitiveness, employment and unemployment, although on a much less significant scale than is predicted to be the case for Model A. The differences between M2, M3 and M4 in the analysis also confirm a number of the issues discussed in this report. The even balance of employer and employee contributions in M2 is shown to be marginally preferable in GDP growth and labour

market terms to a model (M3) assuming that the employee would take all of the non-Exchequer burden. Meanwhile when applying two scenarios to this equal contribution model of gradual phased introduction over 10 years (M2) or immediate introduction (M4) the latter situation is forecast to generate substantially more negative impacts on growth and employment. This illustrates our point that phased introduction of mandatory pension provision is preferable in order to allow employers and employees to react and plan accordingly.

TABLE 4.1: ISSUES WORTHY OF CONSIDERATION FOR THREE PROPOSED MODELS OF MANDATORY PENSION PROVISION

Model	Issues Worthy of Consideration
Model A, based on the assumptions used for M1 in the ESRI analysis, with the State Retirement Pension increased to 50% of gross average industrial earnings (GAIE).	• Simplest and most cost effective to implement. • Perceived as additional taxation to a greater extent than a supplementary scheme. • Most likely to have greatest negative impact on national savings, compared to other models. • Resultant impact on labour force participation. • Impact on labour demand dependent on scale of increase in employers' PRSI contributions • Less likely to impact on participation in voluntary pension schemes. • Approach may be perceived as overly interventionist by potential inward investors.
Model B, based on the general principles governing M2, M3 and M4 in the ESRI analysis, involving a supplementary system with a contribution rate of 15%, with 5% provided the Exchequer, and the remainder split between employer and employee contributions, with options of immediate introduction or phasing in over a ten year period.	• More significant costs of implementation. • Potential to generate increase in total aggregate savings, (although not guaranteed). • May reduce contributions to voluntary pension schemes. • Less of a labour market impact than a PRSI based scheme. • Phased in rather than immediate approach may reduce impact. • Works most efficiently where balance exists between employers and employees contributions.
Model C, a hybrid model combining the above components assuming a State Retirement Pension of 40% of GAIE and a supplementary system with a contribution rate of 15%, a lower contribution threshold of approximately €15,000 and an upper earnings limit of €60,000.	• Potentially highest costs of implementation. • Still some potential for negative external perceptions of additional 'taxation' • Labour market impact more significant than purely supplementary scheme. • Guarantees greater minimum income in retirement. • Guards against regressive impacts with lower income threshold. • Stops higher income groups from using scheme as alternative investment option.

5. Overall Conclusion

While international literature on the specific economic impacts of mandatory pension provision is limited, this study reviewed a range of material that provides good illustrative examples of the impacts that might result were such a scheme to be introduced. While direct application of such findings to the specific Irish context must be done cautiously, this report nonetheless serves as a means of identifying the economic issues that need consideration when making a decision with regard to mandatory pension policy. It has found that mandatory pension contributions can negatively impact on the labour market with repercussions in terms of national competitiveness and overall economic growth. However we have also found that a scheme could, with appropriate design and delivery, increase overall levels of saving and, if these savings can be productively invested, expansions in national output can be generated.

Overall it is clear that the extent to which such impacts are realised is a product of the design and delivery of the system, and very careful consideration must be given to the issues discussed in this report, and their relation to the Irish economic context, prior to any decision on any model. The nature of its introduction, and especially the role of a phased approach, also emerge as an important way to avoid any potentially negative economic shocks.

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Economic Impact of Various Mandatory Pension Systems

Note:

The models referred to in this system are as follows:

M1 – State pension increased to 50% of average industrial earnings – immediate introduction

M2 – No change to State pension, mandatory supplementary scheme with 15% contribution rate split 5% employee, 5% employer, 5% Exchequer – introduced over 10 years

M3 – No change to State pension, mandatory supplementary scheme with 15% contribution rate split 10% employee, 0% employer, 5% Exchequer – introduced over 10 years

M2 – No change to State pension, mandatory supplementary scheme with 15% contribution rate split 5% employee, 5% employer, 5% Exchequer – introduced immediately

The quantification of the macro-economic effects for Ireland of the introduction of different types of mandatory pension systems can only be undertaken within the framework of a macro-economic model. We use the ESRI's Medium-Term Model (HERMES) to simulate the effects of alternative pension systems on macroeconomic variables such as GNP, employment and unemployment. In this note we set out the approach we took to modelling the effects and we present the results of various simulations which quantify the magnitude of the impact of alternative pension systems.

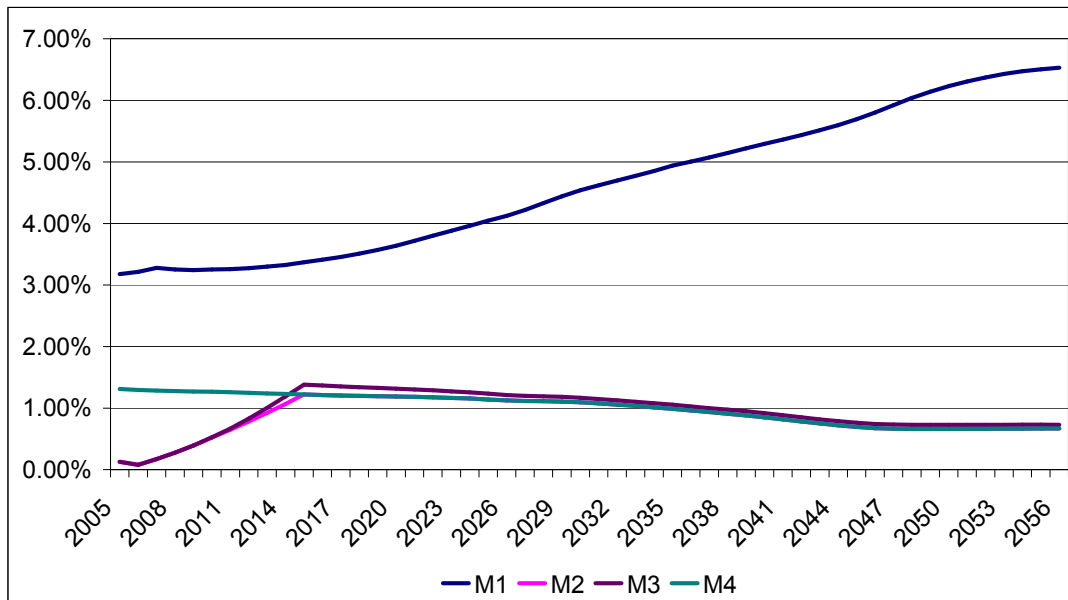
Assumptions and Approach

We began by estimating the *additional* cost of each alternative system relative to the current system.¹ This gives us the amount of extra revenue that needs to be raised to fund the alternative systems (see Figure 1).² The additional cost of the M1 system over the current system is approximately 3.3 per cent of nominal GNP in the short to medium term. However, it should be noted that, in the longer term the additional cost of this system accelerates (unlike the other systems) and is approximately 6.5 per cent of nominal GNP in 2056. We are focussing on medium term impacts in this note (5 years ahead) so we do not take account of this continued rise.

Figure 1: Additional Cost of Each System, as a % of Nominal GNP

¹ The features of the four alternative systems are taken from a memo provided by Brendan Kennedy. The additional cost of each alternative system was calculated using the central projections from Life Strategies.

² It should be noted that this is not the same as the total cost of any of the alternative systems but the extra cost of each of the alternative systems over the current system.



In modelling the impact of mandatory pensions, much will depend on how the labour market reacts because mandatory pension contributions for employees and employers will act like taxes. For employers, paying contributions above what they are currently paying will increase the price of labour and reduce their demand for labour. For employees, paying mandatory contributions will reduce their incentive to stay in the labour market and so reduce labour supply. Overall, we would expect to see a fall in labour demand and supply that would result in a fall in employment and consequently output in the economy.

When modelling each of the systems, an important point to be kept in mind is that the distribution of contributions across employers and employees is likely to be largely irrelevant in the long-run and so should not to be a concern in our analysis. To get a sense of why we say this, consider a situation in which all the contributions are levied on employers. The effect of this will be to reduce labour demand and, in a competitive labour market, this will lead to lower wages. In this way, employees absorb part of the cost of the pension contributions even though it is the employers who write the cheque. In the language of public finance economics, the distinction we are drawing here is between *who pays the tax* (in this case the employers) and *who bears the incidence of the tax* (in this case it is shared between the employers and the employees with the precise share being determined by the relative elasticities of labour supply and labour demand).

We can reverse the example and ask what happens if the tax is levied on the employees. In this case, labour supply falls and employers have to offer higher wages to attract the same amount of labour. Although the tax contributions are deducted from the employees paycheque, the incidence is partly borne by the employer through higher wages. Under certain conditions, it makes absolutely no difference as to who pays the tax – the pre- and post-contributions ages will be the same, as will employment and hence output. For this reason, we run the models below focussing on the impact of difference in contribution amounts and not on who pays those contributions.

For the M2, M3 and M4 mandatory pension systems, it is proposed that the Exchequer also makes a contribution to funding the pension systems. However, from a macro-economic perspective the Exchequer has to get the money from somewhere (through higher taxes, reductions in expenditure or increased borrowing) so we treat the contributions from the Exchequer as money that has to be raised through higher taxes.

Finally, we model the total additional contributions of the alternative system as if it is being put into an investment fund abroad. Our stock of foreign assets would build up and the Exchequer would receive interest payments on the fund. We assume that there is no impact on personal consumption for existing employees in response to the build up of pension wealth.

Impact of M1 Pension System

Over the medium term the amount of additional contributions necessary to fund this system is roughly equivalent to 3.3 per cent of nominal GNP. We took this figure and examined how much taxes would have to increase to generate an increase in government revenue of that magnitude. Before looking at the results we should warn that the figures may understate the actual impact for this particular scenario. The model is more reliable when looking at more modest policy changes – a policy change that implies additional taxes amounting to 3.3 per cent of GNP could have more dramatic effects that are not being captured by the model. The results of the simulation are presented in Table 1.

Table 1: Impact of M1/Alternative System 5' Pension System

	2007/Year 1	2008/Year 2	2011/Year 5
Real GDP	-2.4	-3.4	-3.3
Real GNP	-1.9	-2.5	-0.9
Employment	-1.6	-2.9	-3.1
Unemployment Rate*	1.3	2.0	0.7
Wages	0.4	0.7	-5.1
Real Personal Disposable Income	-9.5	-12.6	-13.7
Balance of Payments, % of GNP*	2.7	4.1	4.7

* percentage points change

From the table, we can see that the level of economic activity would be substantially lower than otherwise would have been. GDP would be 2.4 per cent lower in the first year after the tax is imposed and would be 3.3 per cent lower by the fifth year. However there is a much bigger impact on GDP than on GNP. This arises from the fact that we assume the government invests the additional revenue abroad. As the foreign assets build up governments interest payments from abroad increase. The model makes the simplifying assumption that there are fully integrated capital markets in Europe. The wedge between the impact on GDP and GNP is the increased foreign debt interest payments received. The higher saving by the government has a counterpart in a permanent increase in the balance of payments surplus. This reflects the continuing improvement in the government's net foreign asset position.

Employment is also lower and the unemployment rate is higher. In the second year employment is about 3 per cent below base - a fall of around 58,000 jobs.

Wages are initially higher than they otherwise would have been – although a fall in labour demand would tend to reduce wages, the fall in labour supply has the opposite effect. The simulation suggests that the supply effect dominates in the short run. However, the wage increase is not enough to offset the implicit tax increase and so there is a substantial fall in real disposable income.

Impact of M2, M3 and M4 Pension Systems

The assumptions underlying the M2 and M4 systems are identical with the exception of timing: the M4 system is introduced immediately whereas the M2 system is introduced gradually over ten years.

The impact of introducing this system immediately would result in GDP being roughly 1 per cent below what it otherwise would have been in the first year of the imposition of the tax and approximately 1.4 per cent lower by the fifth year (see Table 3). If this system were introduced more slowly the economic impact would also be more gradual (see Table 2). The channels through which the economy is affected are identical to the M1 simulation although as the M2 and M4 systems involve significantly lower contributions their economic impact is more muted.

Table 2: Impact of M2

	2007/Year 1	2008/Year 2	2011/Year 5
Real GDP	-0.13	-0.26	-0.68
Real GNP	-0.09	-0.18	-0.31
Employment	-0.09	-0.25	-0.68
Unemployment Rate*	0.07	0.18	0.38
Wages	0.03	0.06	-0.43
Real Personal Disposable Income	-0.52	-1.04	-2.83
Balance of Payments, % of GNP*	0.15	0.32	0.92

* percentage points change

Table 3: Impact of M4

	2007/Year 1	2008/Year 2	2011/Year 5
Real GDP	-0.96	-1.41	-1.35
Real GNP	-0.75	-0.98	-0.30
Employment	-0.63	-1.31	-1.18
Unemployment Rate*	0.53	0.92	0.25
Wages	0.16	0.30	-2.30
Real Personal Disposable Income	-3.78	-5.24	-5.62
Balance of Payments, % of GNP*	1.06	1.65	1.87

* percentage points change

The only difference between the M2 and M3 systems is that in the M3 system none of the cost is levied directly on employers, whereas in the M2 system it is evenly distributed between the two. As mentioned above, this should not matter significantly in the medium term. The simulation results are presented in Table 4 and are virtually identical to the impact of the M2 system³.

³ The tiny differences in the figures in Tables 2 and 4 are the result of minor differences in the contributions estimated by Life Strategies.

Table 4: Impact of M3

	2007/Year 1	2008/Year 2	2011/Year 5
Real GDP	-0.13	-0.26	-0.70
Real GNP	-0.09	-0.18	-0.32
Employment	-0.09	-0.25	-0.70
Unemployment Rate*	0.08	0.18	0.39
Consumer Prices	0.03	0.06	-0.16
Wages	0.26	0.06	-0.42
Real Personal Disposable Income	-0.52	-1.04	-2.90
Balance of Payments, % of GNP*	0.15	0.32	0.94

* percentage points change

Soft mandatory systems

National 'soft mandatory' savings schemes have been proposed for New Zealand (the KiwiSaver) and the United Kingdom (the National Pension Savings Scheme or NPSS). Below are brief summaries of these schemes:

New Zealand

The KiwiSaver is anticipated to start on 1 April 2007.

KiwiSaver at-a-glance

- KiwiSaver is a voluntary, work-based savings scheme. Its aim is to encourage well informed savings habits and asset accumulation to improve New Zealanders' financial wellbeing, particularly for retirement.
- Inland Revenue will administer the scheme using the existing PAYE (pay as you earn) tax system. Inland Revenue will forward members' contributions to their allocated or registered KiwiSaver scheme provider for investment.

How the scheme will work

For new employees

- New employees aged 18 to 65 will be automatically enrolled into KiwiSaver when they start a new job.
- They will have six weeks to decide whether to "opt-out" and must advise Inland Revenue of their decision by completing an opt-out form.

For employees under 18, current employees, the self-employed and non-employees:

- Scheme enrolment is not automatic for employees under 18, for current employees, the self-employed, non-employees and ACC recipients, election day workers, casual agricultural workers and beneficiaries.
- However, they will be able to choose to join a KiwiSaver scheme but need to make voluntary contributions directly to Inland Revenue or the KiwiSaver scheme provider.

Contributions

- Employees' regular contributions will:

- start from the next pay day after 11 weeks with an employer if automatically enrolled
 - be deducted from wages at a rate of 4 % of gross salary or wages , unless the employee opts for the higher rate of 8 %, and
 - be held by Inland Revenue for an initial 3 months period during which the employee can seek financial advice and select a KiwiSaver scheme provider.
- One - off lump sum contributions can also be made.
 - Members will be able to select their own KiwiSaver scheme provider and investment funds. They can change KiwiSaver scheme providers, but can only have one KiwiSaver scheme provider at any time.
 - Those new employees who do not specify a KiwiSaver scheme provider will be randomly allocated to a default KiwiSaver scheme provider by Inland Revenue.
 - There are no minimum or maximum income thresholds.
 - Member's contributions will be locked-in until the age of eligibility for New Zealand Superannuation (currently age 65) or five years after the first contribution, whichever is later, with the following exceptions:
 - a one-time withdrawal to assist with the purchase of a first home after at least 3 years membership of KiwiSaver;
 - serious financial hardship;
 - if the person ceases to become a KiwiSaver member (i.e. permanent emigration or upon death of the member).

Contributions holidays

- Members can stop contributions for up to five years at a time by applying for a "contributions holiday".
- They must be in a KiwiSaver scheme for 12 months before applying for a contributions holiday.
- Contributions resume at the end of the five years unless the member applies for a further "contributions holiday".
- Members will be able to apply for a contribution holiday in the initial 12 month period on the grounds of serious financial hardship.

Employers

- Employers will have responsibility for:
 - distributing an information pack, provided by Inland Revenue, to their employees outlining how KiwiSaver works and where to get advice; and
 - deducting employees' contributions and forwarding them to Inland Revenue along with PAYE.
- Employers will not be required to choose a KiwiSaver scheme provider for their employees to join but they may do so if they wish.
- Employers may make employer contributions to their employees' accounts, with some flexibility over the terms and conditions of those payments.

Payroll subsidy

- The proposed subsidy to payroll agents is designed to meet PAYE-related compliance costs which will help reduce costs for small employers who take up the subsidy.
- It is voluntary and available for employers with up to five employees.

Government contribution

- The Government will make:
 - \$1,000 "KickStart" contribution at first joining;
 - a contribution to members' fees- flat dollar amount per member per annum, paid into each member's account (amount to be determined).
 - after 3 years of saving, a one-off first home deposit subsidy of \$1,000 per year of membership in the scheme, up to a maximum of \$5,000 for 5 years. (e.g. \$3,000 from 2010).

Notes:

The fee subsidy can be withdrawn for a first home deposit, along with contributions, but the Government's \$1,000 "KickStart" contribution must remain locked in until age 65.

A member can combine with their partner's first home deposit subsidy e.g. \$6,000 after three years up to \$10,000 after five years)

Existing Work Based Superannuation Schemes

- Existing registered superannuation schemes will be able to continue operating independently of KiwiSaver, convert to a KiwiSaver scheme or establish a KiwiSaver scheme with their existing scheme under their existing trust deed.
- Members of other schemes may choose to open a KiwiSaver account, instead of or as well as, their existing scheme.
- Employers with a suitable work-based registered superannuation scheme will be able to apply to the Government Actuary for an exemption from the automatic enrolment provisions if it meets the following criteria:
 - Open to all new permanent (including part-time) employees.
 - Portable (members can transfer balances to other schemes upon leaving the employer).
 - The minimum employee contribution combined with the maximum employer contribution is at least 4% of gross salary.
 - Employer contributions vest in the employee within 5 years of the employee becoming a member of the scheme.

NB An exempt scheme only qualifies for the home deposit subsidy for first home purchase.

United Kingdom

The UK Government's White Paper on pension reform – "Security in Retirement: Towards a New Pensions System" – was published in May 2006. The White Paper, building on recommendations made by the Pensions Commission, proposed the introduction, in 2012, of a new system of low-cost personal accounts to encourage retirement saving. People will be automatically enrolled into either their employer's scheme or a new personal account, but with the freedom to opt out. Employers will make minimum matching contributions. In tandem with this, the UK proposes to uprate the guarantee element of Pension Credit and the basic State Pension in line with earnings rather than prices. In addition, the State Pension age will be raised in line with longevity.

It is proposed that employees will contribute 4 per cent of a band of earnings of between around £5,000 and £33,000 a year. Employers will make minimum matching contributions of 3 per cent on the same band of earnings. In addition, a further 1 per cent will be contributed in the form of normal tax relief. It is intended

that employers' contributions will be phased in over three years, at the rate of 1 per cent a year.

Employees will be automatically enrolled into either the new personal accounts scheme or their own employer's occupational scheme (providing it meets a minimum standard). Employees will be permitted to opt out of the scheme and non-employees, including the self-employed and people out of work, will be able to opt into the scheme.

The personal accounts will be operated on a defined contribution basis, and individuals will have appropriate levels of choice in how to invest their funds. In addition, the accounts will be portable between employers, periods of employment, and economic inactivity.

Subject to further consultation, the UK Government is proposing two options for administration of the accounts:

i) The Pensions Commission approach – competition for contracts. Under this option, all personal accounts would be provided by a single organisation with the day-to-day running of the scheme outsourced to a number of pension administrators. Everyone would deal with the NPSS (National Pensions Savings Scheme) and would receive consistent service standards and outcomes. Individuals would be able to make decisions about whether to opt out of the scheme, whether to contribute above the minimum and their preferred approach to investment.

ii) Alternative approach – competition through branded providers. Under this option, rather than a single organisation, a number of pension providers would offer personal accounts. People would be permitted to choose their provider, or else be allocated one.



29 June 2006

Mr Brendan Kennedy
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The Pensions Board
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Dublin 2

Dear Brendan

The purpose of this letter is to summarise our work in carrying out a quantitative evaluation of the various systems of pension provision which you have asked us to investigate. In particular, it sets out the scope of our work and summarises the methodology and assumptions we have used to produce our results.

Terms of engagement & scope of our work

As agreed in our exchange of emails (mine dated 28 April, yours dated 2 May), Life Strategies Ltd undertook to carry out the following assignment for the Pensions Board:

1. To produce comparative projections for a number of alternative systems of pensions provision, with those projections to include:
 - Total contributions payable each year (2006-2056), split between mandatory and voluntary contributions and between employer, employee and Exchequer contributions (where relevant)
 - Total net Exchequer costs each year, with the following components of the overall total net Exchequer cost to be separately identified:
 - The cost of Pillar 1 pensions;
 - The cost of public service pensions;
 - PRSI receipts;
 - The net transfers to/from the National Pensions Reserve Fund (NPRF);
 - The net cost of voluntary Pillar 2 provision (i.e. the cost of tax relief on voluntary contributions and tax foregone on investment income/gains, less tax collected from pensions in payment arising from voluntary provision);
 - The cost of tax relief on mandatory pension contributions (where relevant);
 - The cost of Exchequer contributions to mandatory pensions (where relevant);
 - The tax 'foregone' on investment income/gains on the accumulated assets of mandatory arrangements;
 - The tax collected from pensions in payment arising from mandatory provision.
 - Total benefit payments (split between Pillar 1 benefit payments, benefit payments from voluntary Pillar 2 arrangements and benefit payments from mandatory systems).
 - Total Pillar 2 accrued funds (split between accrued funds from voluntary Pillar 2 arrangements and accrued funds from mandatory systems).

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2. To provide you with the detailed output for each system (as specified above) in Excel spreadsheet format.
3. To produce a short note summarising the systems, the scenarios, the assumptions and the results. (It was agreed that we were not required to produce a full report to the same level of detail as the report we provided to you last year, in the context of the National Pensions Review, in assessing alternative systems of pension provision¹).

It was agreed that we would investigate a number of alternative pension systems of your choosing. You would provide us with the outline specification of each system. It was also agreed that we would provide you with projections for each system under a number of alternative scenarios.

It was subsequently agreed that five alternative systems (plus the current system) would be investigated and that each system would be investigated under five alternative scenarios. In total, therefore, we would provide you with 30 sets of projections.

The final set of alternative systems chosen by the Pensions Board for investigation was as follows:

- A. Increasing the State Pension to 50% of gross average industrial earnings (GAIE).
- B. Introducing a supplementary scheme with a 15% contribution rate (split evenly between employers, employees and the Exchequer).
- C. Introducing a supplementary scheme with a 15% contribution rate (10% from employees; 5% from Exchequer; zero from employers).
- D. Introducing a supplementary scheme with a 9% contribution rate (split evenly between employers, employees and the Exchequer).
- E. Increasing the State Pension to 40% of GAIE and introducing a supplementary scheme with a 15% contribution rate (split evenly between employers, employees and the Exchequer).

The scenarios to be investigated were:

- The central scenario which we used in our NPR report.
- A higher immigration scenario.
- A zero net migration scenario.
- The central scenario but with 0.5% p.a. higher investment returns.
- The central scenario but with 0.5% p.a. lower investment returns.

More detail on the systems and the scenarios is provided in the Appendix to this letter.

Methodology and assumptions

The methodology and assumptions that we have used are summarised in the Appendix to this letter.

¹ The report in question was entitled "Alternative systems of pension provision: An assessment for the Pensions Board" and was published as Appendix 6 to your National Pensions Review report. It is referred to as "our NPR report" throughout the remainder of this letter and the Appendix.

Results provided

As agreed, we have provided you with the various outputs from our projections as specified above. These were provided in an Excel spreadsheet which was sent to you by e-mail on 16 June. The spreadsheet provides yearly projections, covering the period 2006-2056, for each of the systems under each of the scenarios.

I trust that this provides you with the information you require. Please do not hesitate to contact me if you should need any further information.

Yours sincerely

Michael Culligan
Director

1. Introduction

In this Appendix we provide a high-level summary of the methodology and assumptions employed in our projections of the current Irish pension system and the five alternative systems chosen by the Pensions Board for investigation.

2. Outline of methodology

In broad terms, our approach to carrying out the financial projections of the various pension systems was as follows:

- We first produced demographic & economic projections which formed the basis for our projections of the economy, population and labour force.
- Having gathered the relevant data, we analysed and modelled the features of the pension systems in order to project the required items (contributions, assets, benefits, tax reliefs etc.)
- In doing we looked at the four components of each of the systems – Pillar 1, public service Pillar 2, private sector Pillar 2 and the National Pensions Reserve Fund. For Pillar 1 and public service Pillar 2, we relied heavily on work undertaken by the Department of Social and Family Affairs and the Department of Finance respectively. The key was to ensure harmonisation and consistency between the approaches taken in respect of each component.

3. Assumptions employed in projecting the current system

3.1 Introduction

Clearly, when projecting the future development of any pensions system over a 50 year period, a great many assumptions are required. Chapters 5, 6 and 7 of our NPR report provide a full description of the assumptions we used in our earlier work in assessing the current Irish pension system. We adopted the same assumptions for the purposes of carrying out projections of the current system under this assignment.

The assumptions may be categorised under the following main headings:

- Demographic assumptions
- Economic assumptions
- Labour force & earnings assumptions
- Pension system assumptions

The following sections deal with each of these in turn.

Any changes which we made to those assumptions, and any additional assumptions which we introduced, to reflect the impact of the proposed alternative systems are summarised in section 4 below.

3.2 Demographic assumptions

We generated population projections for the period to 2056 using our own demographic model.

We took the population as measured by the census of 2002 as our starting point (broken down by age and sex). By imposing age and gender-specific assumptions for fertility, mortality and migration on the 2002 baseline, we generated projections for the future population.

Clearly, the choice of assumptions is crucial in determining the path of projected population developments. In order to minimise any controversy surrounding our choice of assumptions, and also in an effort to bring consistency with the work of others, we opted to use assumptions that had already been used by the CSO in producing population projections. Our central population projection, therefore, mirrors one of the CSO's population projections (specifically their M2F2 variant).

In addition to producing population projections on the central set of assumptions for fertility, mortality and migration, we were also required to produce two further sets of population projections. The first of these assumed a relatively high level of net inwards migration (net inflows of 50,000 people p.a. from 2003-2010, falling to 25,000 p.a. in 2020 and remaining at this level thereafter); the second assumed zero net migration. In both cases the fertility and mortality assumptions were unchanged from the central values.

3.3 Economic assumptions

In assessing alternative pension systems it is necessary to be able to express aggregate pension assets, benefits, contributions etc., as percentages of GNP. For this reason, we needed to generate a long-run GNP series (out to 2056). The methodology and assumptions which were used in projecting future GNP are set out in detail in Chapter 5 of our NPR report. In summary, however, the growth in GNP was projected as a function of growth in employment and productivity.

Assumptions for earnings and price inflation were also derived, consistent with the GNP projections. We also made certain assumptions for future investment returns on pension fund assets. Once again, the details are set out in Chapter 5 of our NPR report.

3.4 Labour force & earnings assumptions

In order to project the size of the labour force we made assumptions about the level of labour force participation by gender and age which we then applied to the projected population numbers. In summary, we held the male age-specific participation rates constant at their current levels, whilst for women we assumed a degree of increase in the participation rates in the 35-54 age range. The full details are provided in Chapter 5 of our NPR report.

We also needed to segment the labour force into earnings bands at each age. We did this on the basis of PRSI data for 2003 which was supplied by the Department of Social and Family Affairs (DSFA). We then assumed that, for each age, the proportion of the labour force in each of the earnings bands would remain constant over time. We further assumed that total labour force earnings would inflate in the future at a rate consistent with our economic assumptions.

Further detail on our labour force & earnings assumptions is provided in Chapter 5 of our NPR report.

3.5 Pension system assumptions

The detailed assumptions which we used in assessing the current system are set out in Chapter 7 of our NPR report. The following paragraphs provide a high-level summary of some of the more important assumptions.

Retirement age

We assumed a retirement age of 65 (other than in the case of the State Pension (Contributory) where we assumed 66).

Pillar 1

Current data from the DSFA provided us with information on the proportion of the over-65 population in receipt of various benefits. By making assumptions on how these proportions will move over time, we calculated the number of recipients under the various payment categories out to 2056, using our population projections. The relevant assumptions, which were supplied by the DSFA, are detailed in Table 5.1 in our NPR report.

With regard to payment rates, we assumed that the amount of the State Pension (Contributory) increases to 34% of the previous year's gross average industrial earnings with immediate effect. We then assume that it is indexed from that base in line with earnings inflation and that the same absolute increases (i.e. in monetary amounts) are applied to other payments.

Section 7.3 of our NPR report provides more detail on the Pillar 1 projections.

PRSI receipts

Under our assumptions (about the growth in the labour force, earnings and GNP), PRSI receipts are projected to represent a broadly constant proportion of GNP over time (approximately 4.3% of GNP). We were instructed to count 85% of total PRSI receipts as being 'pension-related' (i.e. 3.7% of GNP). Please see section 7.4 of our NPR report for more detail on this point.

Public service Pillar 2

The Department of Finance provided us with projections of the gross benefit outgo in relation to public service pensions out to 2056. These projections were essentially an updating of the work undertaken by the Commission on Public Service Pensions in 2000 and in most cases the assumptions follow those used by the Commission, with some updating in certain areas.

The projections are on the basis that public service employment numbers remain constant at approximately 280,000 (as measured on a full-time equivalent basis). Section 7.5 of our NPR report provides a detailed description of the approach taken.

Private sector Pillar 2

We gathered data on the current private-sector Pillar 2 system (i.e. membership, contributions, assets, pensioners etc.) from various sources and made assumptions about how each of these items would evolve in the future.

With regard to membership, we assumed that private sector Pillar 2 coverage rates remain constant at their current levels. New entrants to defined benefit schemes are assumed to dry up over the next 20 years (with occupational defined contribution and personal arrangements making up the difference).

Please refer to section 7.7 in our NPR report for more details on our approach to projecting the private sector Pillar 2 system.

National Pensions Reserve Fund

We projected the future size of the NPRF, allowing for contributions of 1% of our projected GNP figures and assuming a real investment return of 4.6% p.a. (see section 6.8.3 of our NPR report for details on the derivation of this rate). Drawdowns were assumed to commence in 2025 (at a low level) with subsequent annual drawdowns increasing in line with the growth in the over-65 population. More detail on our methodology and assumptions for the NPRF projections may be found in section 7.6 of our NPR report.

4. Assumption changes for each of the alternative systems

4.1 Introduction

In our opinion (which we had previously discussed and agreed with the Pensions Board in the context of our NPR report), introducing any alternative pension system would be likely to have an impact on existing pension arrangements and would therefore necessitate a revision of the assumptions relevant to those arrangements.

In addition, some of the alternative systems have features which are not present in the current system and for which additional assumptions are therefore required.

Therefore, in order to model the future evolution of the various alternative pension systems, we had to alter some assumptions and to introduce some new ones.

The potential impact of introducing mandatory pension systems on economic variables such as employment levels, earnings and GNP also needed to be reflected. The Pensions Board commissioned the Economic and Social Research Institute (ESRI) to quantify the macro-economic impacts on the Irish economy of the introduction of the various types of alternative pension systems under examination. The medium-term impacts on employment, earnings and GNP were determined by the ESRI and, based on these, the Pensions Board provided us with the economic adjustments to be incorporated in our financial projections of those alternative systems.

In summary, the assumption changes and the economic adjustments varied from system to system, reflecting the design of the system in question. The following paragraphs summarise the main assumption changes and additional assumptions which were required for each of the alternative systems which we were asked to investigate. The necessary adjustments to the economic variables, as advised by the Pensions Board, are also summarised.

4.2 System A

System A entails a gradual increase over 10 years in the level of the Pillar 1 pension from 34% to 50% of the previous year's gross average industrial earnings. The cost of the increase in this pension is assumed to be met by separately identifiable contributions to be paid by employers and employees. The contribution rate in respect of the additional pension is set at a rate which is calculated to be cost-neutral in the long-term. Other than this, the current system continues unchanged.

This system is very similar to one of systems we examined in our NPR report (termed "Alternative System 5" in that report). The only difference of any significance between the two systems is that System A assumes a gradual stepping up of the Pillar 1 pension over 10 years, whereas Alternative System 5 envisaged an immediate increase to the 50% level.

The methodology and assumptions used to assess System A are, therefore, very similar to those set out in Chapter 13 of our NPR report. They are the same as those used in assessing the current system, with the following exceptions:

- Coverage rates: We assumed that there would be no future new entrants to existing voluntary schemes, except in the highest income band (as everyone will be getting increased Pillar 1 benefits).
- Employee contributions: For defined contribution arrangements, we assumed that voluntary contributions would reduce by the amount of the mandatory contributions. For defined benefit schemes, contributions would reduce to reflect the impact of integration with a higher Pillar 1 benefit.
- Employer contributions: We assumed that employer contributions to defined contribution arrangements would continue at a lower rate, such that the total employer contribution (to existing arrangements and new mandatory arrangements) would be unchanged. For defined benefit schemes, employer contributions would reduce to reflect the impact of integration with a higher Pillar 1 benefit.
- Additional Pillar 1 contribution: We calculated that an additional contribution of 9.2% (payable on all earnings) would be required to fund the increase in the Pillar 1 benefit. This additional contribution was assumed to attract tax & PRSI relief at the contributor's marginal rate.
- Transition costs: In projecting the net Exchequer cost of this system, we assumed that the increase in Pillar 1 benefit would be immediately payable to all existing pensioners as well as to all future retirees. The additional contribution levied in respect of this additional benefit (which has been calculated on the basis of a new entrant funding rate), whilst sufficient to fund the increase in the long term, would not, however, address the additional transitional costs which would result from granting the increase to those already retired (and to a lesser extent to those already in the workforce).
- Tax revenues from increased Pillar 1 pensions: We assumed that the additional Pillar 1 pension (i.e. the extra amount resulting from the increase from 34% to 50%) would give rise to additional income tax revenue at an average tax rate of 20%.
- Public servants: We assumed that the additional Pillar 1 pension would only be payable to those who were integrated with the social insurance system.

In terms of adjusting for the potential economic impact of introducing this system, we were advised by the Pensions Board to make the following adjustments:

- To adjust the projected year 10 GNP figure by multiplying it by 0.99
- To adjust the projected year 10 earnings by multiplying by 0.95
- To adjust the projected year 10 number of employed persons by multiplying by 0.97

For years 1 to 9, we were instructed to apply adjustment factors to be calculated by interpolating between a starting value of 1 and the relevant year 10 factor.

The following adjustments were to be made to the projected year 50 figures:

- Adjust projected year 50 GNP by multiplying by 0.98
- Adjust projected year 50 earnings by multiplying by 0.90
- Adjust projected year 50 employment by multiplying by 0.94

For years 11 to 50, we were instructed to apply adjustment factors to be calculated by interpolating between the relevant year 10 and year 50 factors.

4.3 System B

This system involves the introduction of a mandatory supplementary defined contribution scheme, with contributions from employers, employees and the Exchequer. All workers (including the self-employed) other than those in the public service are covered by the scheme. Each party pays 5% of relevant earnings (15% in total). Relevant earnings are defined as earnings above twice the State Pension (Contributory) up to a maximum of six times the State Pension (Contributory). The mandatory employee contributions do not qualify for tax relief. Additional contributions may be paid into voluntary arrangements if desired. Additional voluntary employer and employee contributions qualify for tax relief as at present. Finally, there is no change to the Pillar 1 pension.

This system is somewhat similar to one of systems we examined in our NPR report (termed "Alternative System 2" in that report). The main difference between the two systems relates to the form of Exchequer support for the mandatory system (the 5% Exchequer contribution did not exist in Alternative System 2; mandatory contributions were assumed to qualify for higher rate tax relief instead). The other difference is that System B is assumed to be introduced over a 10 year period (with a total contribution rate of 1.5% in year 1, 3.0% in year 2 etc.), whereas Alternative System 2 envisaged the immediate introduction of mandatory contributions at the full rate.

The methodology and assumptions used to assess System B are, therefore, very similar to those set out in Chapter 10 of our NPR report. They are the same as those used in assessing the current system, with the following exceptions:

- Coverage rates: We assumed that there would be no future new entrants to existing voluntary schemes, except in the highest income band (as everyone, other than the lowest earners, will be joining the new mandatory arrangements).
- Employee contributions: We assumed that voluntary contributions would reduce by the amount of the mandatory contributions.
- Employer contributions: We assumed that employer contributions would continue at a lower rate, such that the total employer contribution (to existing arrangements and new mandatory arrangements) would be unchanged.
- Tax relief on contributions: Mandatory employer contributions are assumed to qualify for tax relief; mandatory employee contributions do not. Additional voluntary contributions qualify for tax relief as at present.
- Expenses: We assumed a reduction in yield of 0.5% p.a. on mandatory assets (compared to 1.5% p.a. on the assets of voluntary Pillar 2 arrangements).

In terms of adjusting for the potential economic impact of introducing this system, we were advised by the Pensions Board to make the following adjustments:

- To adjust the projected year 10 GNP figure by multiplying it by 0.997
- To adjust the projected year 10 earnings by multiplying by 0.977
- To adjust the projected year 10 number of employed persons by multiplying by 0.988

For years 1 to 9, we were instructed to apply adjustment factors to be calculated by interpolating between a starting value of 1 and the relevant year 10 factor.

For years 11 to 50, we were instructed to use the year 10 adjustment factors throughout.

4.4 System C

This system is very similar to System B except that the split of the 15% mandatory contribution is different – rather than employers and employees paying 5% each, employees pay 10% and employers pay nil. Accordingly, the adjustments to our methodology and assumptions were as for System B above. We were also advised to make the same economic adjustments as for System B.

4.5 System D

This system is also very similar to System B except that the total mandatory contribution is lower (9% in total rather than 15%). The split of the total contribution is the same, however, with an equal three-way division between employers, employees and the Exchequer. Accordingly, the adjustments to our methodology and assumptions were as for System B above.

In terms of adjusting for the potential economic impact of introducing this system, we were advised by the Pensions Board to make the following adjustments:

- To adjust the projected year 10 GNP figure by multiplying it by 0.998
- To adjust the projected year 10 earnings by multiplying by 0.986
- To adjust the projected year 10 number of employed persons by multiplying by 0.993

For years 1 to 9, we were instructed to apply adjustment factors to be calculated by interpolating between a starting value of 1 and the relevant year 10 factor.

For years 11 to 50, we were instructed to use the year 10 adjustment factors throughout.

4.6 System E

System E may be viewed as a hybrid of Systems A and B – it involves the introduction of a mandatory supplementary defined contribution scheme as well as an increase in the level of the Pillar 1 pension. There are some differences, however: under this system the Pillar 1 pension is assumed to increase to 40% of GAIE (rather than 50% in System A). The relevant earnings for the purposes of mandatory contributions are also different – the lower earnings limit for contribution purposes is set at the employee PRSI threshold (approximately €15,000) rather than twice the State Pension (approximately €20,000).

Other than those differences, System E is effectively a combination of Systems A and B and our methodology and assumptions reflect this (see the commentary on Systems A and B above for details).

In terms of adjusting for the potential economic impact of introducing this system, we were advised by the Pensions Board to make the same economic adjustments as for System A.

Description of models

As part of the mandatory pension project, financial projections were prepared for a six different pension systems. A summary of these six systems is as follows:

- The current, voluntary system
- Model A – an increase in the State pension to 50% of General Average Industrial Earnings (GAIE) (about €15,000 p.a.) and voluntary further supplementary provision
- Model B – no change to the State pension, but a mandatory supplementary pension contribution of 15% of earnings above €20,000 p.a., split between workers, employers and the Exchequer
- Model C – as for Model B but contributions split between workers and the Exchequer only
- Model D – as for model B, but contributions of 9% of earnings above €20,000 p.a., split between workers, employers and the Exchequer
- Model E – an increase in the State pension to 40% of GAIE, (about €12,000 p.a.) with mandatory supplementary contributions of 15% of earnings above €15,000 p.a.

A precise specification of the Models A to E is set out in the following table:

Model	A	B	C	D	E
Contributory State pension					
	50% GAIE	34% GAIE	34% GAIE	34% GAIE	40% GAIE
Mandatory supplementary pension					
Contribution rate	None	Employee: 5%	Employee: 10%	Employee: 3%	Employee: 5%
		Employer: 5%	Employer: 0%	Employer: 3%	Employer: 5%
		Self-employed: 10%	Self-employed: 10%	Self-employed: 6%	Self-employed: 10%
		Exchequer 5%	Exchequer 5%	Exchequer 3%	Exchequer 5%
Tax relief		No tax relief on employee/self-employed contributions	No tax relief on employee/self-employed contributions	No tax relief on employee/self-employed contributions	No tax relief on employee/self-employed contributions

Model	A	B	C	D	E
Lower income limit		200% Contributory State Pension	200% Contributory State Pension	200% Contributory State Pension	125% Revised contributory State Pension (i.e. 150% of current pension)
Upper income limit		600% Contributory State Pension	600% Contributory State Pension	600% Contributory State Pension	500% Revised contributory State Pension (i.e. 600% of current pension)

The current and alternative models were examined under a range of scenarios as follows:

- All models were projected under the central basis used in the National Pension Review.
- All models were projected on a number of bases to examine the effects of changes in the investment returns assumed or changes in the assumed immigration
- A number of the alternative models were examined on the assumption of immediate introduction or gradual introduction over 10 years
- Most of the alternative models were projected on economic assumptions varied to take estimated account of the economic effect of the mandatory system.

Details of the scenarios are as follows:

Net immigration:	Central	30,000 p.a. in 2006, falling to 5,000 p.a. from 2017
	Low	Nil net immigration
	High	50,000 p.a. until 2010, falling to 25,000 p.a. from 2020 onwards
Investment return	Central	3.6% real return
	Low	3.1% real return
	High	4.1% real return

The ESRI modelled the impact of models A, B, and C, as described in appendix

B. All of these were assumed to be introduced immediately, but model B was also examined on the assumption of gradual introduction over 10 years. The results of the ESRI modelling are given in appendix B. Based on these results, additional projections were prepared incorporating an approximate allowance for the economic effects of the pension systems. Three different adjusted bases were used:

Basis 1

Basis 1 was used for projections of models A and E assuming gradual introduction over 10 years. The economic impacts after the first ten years were assumed to equal those modelled by ESRI for model A assuming full impact after five years, and shown above in appendix B. For the purposes of the projections, these economic effects were assumed to grow gradually over the introductory period.

Because initial modelling showed clearly that the cost of an increased State pension would continue to grow over the period being modelled, it was assumed that the economic impact would continue to increase after the initial ten years. It was assumed that the adjustments after ten years would be doubled over the remaining 40 years.

These adjustments are summarised in table E.1 below:

Table E.1 – basis 1 assumed economic impact

First 10 years	GNP	99% in year 10
	Salary	95% in year 10
	Employment	97% in year 10
Following years	GNP	Reducing to 98% by year 50
	Salary	Reducing to 90% by year 50
	Employment	Reducing to 94% by year 50

Basis 2

Basis 2 was used for projections of models B and C assuming gradual introduction over 10 years. The economic impacts after the first ten years were assumed to equal those modelled by ESRI for model B assuming full impact after five years. For the purposes of the projections, these economic effects were assumed to grow gradually over the introductory period.

Unlike model A, the impact of models B and C do not increase at the same rate after the first ten years. It was therefore decided to make no further adjustments to the projection basis after ten years.

The ESRI modelling showed proportionately little difference between the economic effects of models B and C on the basis of the assumptions underlying their projections, so basis 2 was used for both systems. The basis 2 adjustments are shown in table E.2 as follows:

Table E.2 – basis 2 assumed economic impact

First 10 years	GNP	99.7% in year 10
	Salary	97.7% in year 10
	Employment	98.8% in year 10
Following years	GNP	As for year 10
	Salary	As for year 10
	Employment	As for year 10

Basis 3

The ESRI were not asked to produce modelling result for model D. The estimated economic impact incorporated in basis 3 was calculated proportionately from basis 2. These adjustments are shown in table E.3:

Table E.3 – basis 3 assumed economic impact

First 10 years	GNP	99.8% in year 10
	Salary	98.6% in year 10
	Employment	99.3% in year 10
Following years	GNP	As for year 10
	Salary	As for year 10
	Employment	As for year 10

Projection results

The following tables show the results of the Life Strategies projections. They are set out in the following order:

	Model	Projection basis	Economic basis
Table 1	Current system	NPR central	NPR
Table 2	Current system	Low investment return	NPR
Table 3	Current system	High investment return	NPR
Table 4	Current system	Low immigration	NPR
Table 5	Current system	High immigration	NPR
Table 6	Model A – immediate	NPR central	NPR
Table 7	Model A – immediate	Low investment return	NPR
Table 8	Model A – immediate	High investment return	NPR
Table 9	Model A – immediate	Low immigration	NPR
Table 10	Model A – immediate	High immigration	NPR
Table 11	Model A – 10 year phase in	NPR central	NPR
Table 12	Model A – 10 year phase in	Low investment return	NPR
Table 13	Model A – 10 year phase in	High investment return	NPR
Table 14	Model A – 10 year phase in	Low immigration	NPR
Table 15	Model A – 10 year phase in	High immigration	NPR
Table 16	Model A – 10 year phase in	NPR central	Basis 1
Table 17	Model A – 10 year phase in	Low investment return	Basis 1
Table 18	Model A – 10 year phase in	High investment return	Basis 1
Table 19	Model A – 10 year phase in	Low immigration	Basis 1
Table 20	Model A – 10 year phase in	High immigration	Basis 1
Table 21	Model B – immediate	NPR central	NPR
Table 22	Model B – immediate	Low investment return	NPR
Table 23	Model B – immediate	High investment return	NPR
Table 24	Model B – immediate	Low immigration	NPR
Table 25	Model B – immediate	High immigration	NPR
Table 26	Model B – 10 year phase in	NPR central	NPR
Table 27	Model B – 10 year phase in	Low investment return	NPR
Table 28	Model B – 10 year phase in	High investment return	NPR
Table 29	Model B – 10 year phase in	Low immigration	NPR
Table 30	Model B – 10 year phase in	High immigration	NPR
Table 31	Model B – 10 year phase in	NPR central	Basis 2

	Model	Projection basis	Economic basis
Table 32	Model B – 10 year phase in	Low investment return	Basis 2
Table 33	Model B – 10 year phase in	High investment return	Basis 2
Table 34	Model B – 10 year phase in	Low immigration	Basis 2
Table 35	Model B – 10 year phase in	High immigration	Basis 2
Table 36	Model C – immediate	NPR central	NPR
Table 37	Model C – immediate	Low investment return	NPR
Table 38	Model C – immediate	High investment return	NPR
Table 39	Model C – immediate	Low immigration	NPR
Table 40	Model C – immediate	High immigration	NPR
Table 41	Model C – 10 year phase in	NPR central	NPR
Table 42	Model C – 10 year phase in	Low investment return	NPR
Table 43	Model C – 10 year phase in	High investment return	NPR
Table 44	Model C – 10 year phase in	Low immigration	NPR
Table 45	Model C – 10 year phase in	High immigration	NPR
Table 46	Model C – 10 year phase in	NPR central	Basis 2
Table 47	Model C – 10 year phase in	Low investment return	Basis 2
Table 48	Model C – 10 year phase in	High investment return	Basis 2
Table 49	Model C – 10 year phase in	Low immigration	Basis 2
Table 50	Model C – 10 year phase in	High immigration	Basis 2
Table 51	Model D – 10 year phase in	NPR central	NPR
Table 52	Model D – 10 year phase in	Low investment return	NPR
Table 53	Model D – 10 year phase in	High investment return	NPR
Table 54	Model D – 10 year phase in	Low immigration	NPR
Table 55	Model D – 10 year phase in	High immigration	NPR
Table 56	Model D – 10 year phase in	NPR central	Basis 3
Table 57	Model D – 10 year phase in	Low investment return	Basis 3
Table 58	Model D – 10 year phase in	High investment return	Basis 3
Table 59	Model D – 10 year phase in	Low immigration	Basis 3
Table 60	Model D – 10 year phase in	High immigration	Basis 3
Table 61	Model E – 10 year phase in	NPR central	NPR
Table 62	Model E – 10 year phase in	Low investment return	NPR
Table 63	Model E – 10 year phase in	High investment return	NPR
Table 64	Model E – 10 year phase in	Low immigration	NPR
Table 66	Model E – 10 year phase in	High immigration	NPR
Table 66	Model E – 10 year phase in	NPR central	Basis 1
Table 67	Model E – 10 year phase in	Low investment return	Basis 1

	Model	Projection basis	Economic basis
Table 68	Model E – 10 year phase in	High investment return	Basis 1
Table 69	Model E – 10 year phase in	Low immigration	Basis 1
Table 70	Model E – 10 year phase in	High immigration	Basis 1

Table 1

Model	Current system
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	234,839	227,261	167,933	103,640	44,519	9,444
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	234,751	361,345	422,557	464,765	491,578	506,166
- RAC/PRSA holders	275,155	303,098	307,260	304,949	287,979	279,761
- Others	909,287	957,977	981,071	989,290	919,750	891,115
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 1

Model	Current system
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 1

Model	Current system
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,079,455	2,484,164	4,306,081	6,479,458	8,880,440	13,332,958
Contributions - voluntary - employer	1,791,144	3,088,792	4,304,999	5,425,496	6,856,903	9,259,874
Contributions - voluntary - self-employed	1,403,102	2,430,524	3,704,484	5,463,278	7,666,382	11,043,276
Contributions - voluntary - Total	4,273,701	8,003,480	12,315,565	17,368,232	23,403,725	33,636,108
- as % of GNP	3.0%	3.3%	3.2%	3.1%	2.9%	2.9%
- as % of labour force earnings	7.0%	7.2%	7.4%	7.1%	6.8%	6.7%
Contributions - mandatory - employee	0	0	0	0	0	0
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	0	0	0	0	0	0
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- as % of labour force earnings	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 1

Model	Current system
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	525,818	1,228,278	2,141,532	3,205,689	4,359,425	6,552,450
Tax relief - voluntary contribs - employer	223,893	386,099	538,125	678,187	857,113	1,157,484
Tax relief - voluntary contribs - self-employed	553,463	958,736	1,461,258	2,155,026	3,024,055	4,356,093
Tax relief - voluntary contribs - Total	1,303,173	2,573,114	4,140,915	6,038,903	8,240,593	12,066,027
- as % of GNP	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,283,717	153,148,479	294,197,623	489,443,162	717,751,948	1,011,062,757
- as % of GNP	49.1%	62.3%	77.6%	86.9%	89.6%	86.8%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,824,591	6,040,312	11,672,433	19,505,093	28,679,386	40,415,218
Tax foregone on investment income	564,918	1,208,062	2,334,487	3,901,019	5,735,877	8,083,044
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,138,165	2,221,374	5,160,765	11,401,066	21,892,786	32,232,883
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,138,165	2,221,374	5,160,765	11,401,066	21,892,786	32,232,883
Tax revenue from pensions in payment (total)	250,396	488,702	1,135,368	2,508,235	4,816,413	7,091,234
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.6%

Table 1

Model	Current system
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.6%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.4%	3.9%	5.5%	5.9%	6.2%	7.0%

Table 2

Model	Current system
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	234,839	227,261	167,933	103,640	44,519	9,444
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	234,751	361,345	422,557	464,765	491,578	506,166
- RAC/PRSA holders	275,155	303,098	307,260	304,949	287,979	279,761
- Others	909,287	957,977	981,071	989,290	919,750	891,115
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 2

Model	Current system
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 2

Model	Current system
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,079,455	2,484,164	4,306,081	6,479,458	8,880,440	13,332,958
Contributions - voluntary - employer	1,791,144	3,088,792	4,304,999	5,425,496	6,856,903	9,259,874
Contributions - voluntary - self-employed	1,403,102	2,430,524	3,704,484	5,463,278	7,666,382	11,043,276
Contributions - voluntary - Total	4,273,701	8,003,480	12,315,565	17,368,232	23,403,725	33,636,108
- as % of GNP	3.0%	3.3%	3.2%	3.1%	2.9%	2.9%
- as % of labour force earnings	7.0%	7.2%	7.4%	7.1%	6.8%	6.7%
Contributions - mandatory - employee	0	0	0	0	0	0
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	0	0	0	0	0	0
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- as % of labour force earnings	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2

Model	Current system
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	525,818	1,228,278	2,141,532	3,205,689	4,359,425	6,552,450
Tax relief - voluntary contribs - employer	223,893	386,099	538,125	678,187	857,113	1,157,484
Tax relief - voluntary contribs - self-employed	553,463	958,736	1,461,258	2,155,026	3,024,055	4,356,093
Tax relief - voluntary contribs - Total	1,303,173	2,573,114	4,140,915	6,038,903	8,240,593	12,066,027
- as % of GNP	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,459,504	147,987,178	278,420,539	457,425,244	666,763,090	937,724,616
- as % of GNP	49.3%	60.2%	73.4%	81.2%	83.3%	80.5%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,501,754	5,126,594	9,696,831	15,994,251	23,364,735	32,870,977
Tax foregone on investment income	500,351	1,025,319	1,939,366	3,198,850	4,672,947	6,574,195
- as % of GNP	0.4%	0.4%	0.5%	0.6%	0.6%	0.6%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,128,494	2,096,960	4,668,774	10,048,268	19,049,105	27,907,965
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,128,494	2,096,960	4,668,774	10,048,268	19,049,105	27,907,965
Tax revenue from pensions in payment (total)	248,269	461,331	1,027,130	2,210,619	4,190,803	6,139,752
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%

Table 2

Model	Current system
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.5%	0.6%	0.6%	0.6%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.4%	3.8%	5.4%	6.0%	6.6%	7.5%

Table 3

Model	Current system
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	234,839	227,261	167,933	103,640	44,519	9,444
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	234,751	361,345	422,557	464,765	491,578	506,166
- RAC/PRSA holders	275,155	303,098	307,260	304,949	287,979	279,761
- Others	909,287	957,977	981,071	989,290	919,750	891,115
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 3

Model	Current system
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 3

Model	Current system
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,079,455	2,484,164	4,306,081	6,479,458	8,880,440	13,332,958
Contributions - voluntary - employer	1,791,144	3,088,792	4,304,999	5,425,496	6,856,903	9,259,874
Contributions - voluntary - self-employed	1,403,102	2,430,524	3,704,484	5,463,278	7,666,382	11,043,276
Contributions - voluntary - Total	4,273,701	8,003,480	12,315,565	17,368,232	23,403,725	33,636,108
- as % of GNP	3.0%	3.3%	3.2%	3.1%	2.9%	2.9%
- as % of labour force earnings	7.0%	7.2%	7.4%	7.1%	6.8%	6.7%
Contributions - mandatory - employee	0	0	0	0	0	0
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	0	0	0	0	0	0
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- as % of labour force earnings	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 3

Model	Current system
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	525,818	1,228,278	2,141,532	3,205,689	4,359,425	6,552,450
Tax relief - voluntary contribs - employer	223,893	386,099	538,125	678,187	857,113	1,157,484
Tax relief - voluntary contribs - self-employed	553,463	958,736	1,461,258	2,155,026	3,024,055	4,356,093
Tax relief - voluntary contribs - Total	1,303,173	2,573,114	4,140,915	6,038,903	8,240,593	12,066,027
- as % of GNP	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,142,357	158,529,871	311,072,463	524,367,254	773,979,351	1,092,329,001
- as % of GNP	49.0%	64.5%	82.1%	93.1%	96.6%	93.7%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	3,145,741	7,011,265	13,847,103	23,455,757	34,728,148	49,035,157
Tax foregone on investment income	629,148	1,402,253	2,769,421	4,691,151	6,945,630	9,807,031
- as % of GNP	0.4%	0.6%	0.7%	0.8%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,148,082	2,353,555	5,700,682	12,925,357	25,147,310	37,214,868
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,148,082	2,353,555	5,700,682	12,925,357	25,147,310	37,214,868
Tax revenue from pensions in payment (total)	252,578	517,782	1,254,150	2,843,579	5,532,408	8,187,271
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.7%

Table 3

Model	Current system
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	1.0%	1.0%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.7%	0.8%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.7%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.4%	4.0%	5.6%	5.7%	5.8%	6.4%

Table 4

Model	Current system
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	225,979	208,280	149,393	88,537	37,258	8,467
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	220,326	307,374	349,457	378,670	390,840	387,081
- RAC/PRSA holders	260,936	273,744	272,116	263,218	244,901	233,574
- Others	868,017	876,555	883,460	860,990	788,706	752,184
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 4

Model	Current system
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 4

Model	Current system
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,036,441	2,213,405	3,635,771	5,259,729	7,122,023	10,406,313
Contributions - voluntary - employer	1,719,621	2,742,667	3,651,047	4,470,802	5,501,150	7,102,044
Contributions - voluntary - self-employed	1,342,088	2,214,091	3,309,106	4,756,365	6,575,866	9,302,226
Contributions - voluntary - Total	4,098,150	7,170,164	10,595,924	14,486,896	19,199,040	26,810,583
- as % of GNP	3.0%	3.1%	3.0%	2.9%	2.7%	2.7%
- as % of labour force earnings	6.9%	7.1%	7.1%	6.8%	6.4%	6.3%
Contributions - mandatory - employee	0	0	0	0	0	0
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	0	0	0	0	0	0
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- as % of labour force earnings	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 4

Model	Current system
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	505,784	1,096,125	1,805,958	2,596,168	3,491,428	5,108,290
Tax relief - voluntary contribs - employer	214,953	342,833	456,381	558,850	687,644	887,756
Tax relief - voluntary contribs - self-employed	530,431	875,071	1,307,851	1,879,849	2,598,966	3,676,500
Tax relief - voluntary contribs - Total	1,251,167	2,314,030	3,570,191	5,034,867	6,778,039	9,672,546
- as % of GNP	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,096,380	146,748,678	269,831,233	430,153,148	611,349,923	842,776,086
- as % of GNP	50.0%	63.8%	77.6%	85.3%	86.6%	83.6%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,820,495	5,799,046	10,723,618	17,164,452	24,447,561	33,718,239
Tax foregone on investment income	564,099	1,159,809	2,144,724	3,432,890	4,889,512	6,743,648
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,140,044	2,217,765	5,081,711	10,873,829	19,532,277	27,636,901
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,140,044	2,217,765	5,081,711	10,873,829	19,532,277	27,636,901
Tax revenue from pensions in payment (total)	250,810	487,908	1,117,976	2,392,242	4,297,101	6,080,118
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.6%	0.6%

Table 4

Model	Current system
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.6%	-0.6%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	4.3%	5.9%	6.3%	6.8%	7.9%

Table 5

Model	Current system
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	240,638	250,519	193,849	125,864	58,157	12,127
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	244,194	437,000	566,994	666,645	753,366	829,858
- RAC/PRSA holders	284,587	342,403	368,328	388,853	392,686	399,495
- Others	937,545	1,079,187	1,160,261	1,250,834	1,254,649	1,265,608
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477

GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 5

Model	Current system
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 5

Model	Current system
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,107,327	2,821,581	5,409,106	8,985,780	13,416,124	21,129,280
Contributions - voluntary - employer	1,837,422	3,519,909	5,425,014	7,459,228	10,247,492	15,034,463
Contributions - voluntary - self-employed	1,443,197	2,730,565	4,416,263	6,928,018	10,396,157	15,675,375
Contributions - voluntary - Total	4,387,946	9,072,055	15,250,383	23,373,026	34,059,773	51,839,118
- as % of GNP	3.1%	3.3%	3.4%	3.3%	3.2%	3.2%
- as % of labour force earnings	7.0%	7.3%	7.6%	7.6%	7.3%	7.3%
Contributions - mandatory - employee	0	0	0	0	0	0
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	0	0	0	0	0	0
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- as % of labour force earnings	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 5

Model	Current system
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	538,761	1,389,781	2,684,567	4,449,044	6,594,137	10,384,129
Tax relief - voluntary contribs - employer	229,678	439,989	678,127	932,403	1,280,936	1,879,308
Tax relief - voluntary contribs - self-employed	568,550	1,075,711	1,739,794	2,729,304	4,095,584	6,175,340
Tax relief - voluntary contribs - Total	1,336,989	2,905,481	5,102,488	8,110,752	11,970,657	18,438,778
- as % of GNP	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,405,842	159,900,037	327,683,156	587,719,391	933,640,452	1,408,478,028
- as % of GNP	48.6%	58.9%	74.0%	84.0%	88.1%	87.1%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,827,263	6,291,012	12,964,361	23,355,110	37,207,454	56,180,860
Tax foregone on investment income	565,453	1,258,202	2,592,872	4,671,022	7,441,491	11,236,172
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,136,873	2,215,092	5,236,659	11,990,241	24,965,509	40,664,191
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,136,873	2,215,092	5,236,659	11,990,241	24,965,509	40,664,191
Tax revenue from pensions in payment (total)	250,112	487,320	1,152,065	2,637,853	5,492,412	8,946,122
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.5%	0.6%

Table 5

Model	Current system
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%	-0.6%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.4%	3.6%	4.9%	4.9%	4.9%	5.2%

Table 6

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 6

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	6,299,758	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	4.5%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	2,015,923	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	403,185	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.3%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	2,015,923	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 6

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	559,200	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,135,516	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	342,576	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	2,037,292	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	1.4%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	3.3%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	1,639,138	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	1,518,741	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	120,396	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	1,474,085	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	4,752,360	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	3.4%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	7.7%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 6

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	286,344	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	141,940	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	147,965	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	576,248	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.4%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	1,273,723	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,012,950	107,844,339	158,503,874	205,780,224	215,283,622	218,774,739
- as % of GNP	47.5%	43.8%	41.8%	36.5%	26.9%	18.8%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,775,956	4,311,062	6,349,392	8,272,318	8,693,181	8,804,836
Tax foregone on investment income	555,191	862,212	1,269,878	1,654,464	1,738,636	1,760,967
- as % of GNP	0.4%	0.4%	0.3%	0.3%	0.2%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,004,917	4,215,401	7,982,352	12,413,895	13,219,071
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,125,648	2,004,917	4,215,401	7,982,352	12,413,895	13,219,071
Tax revenue from pensions in payment (total)	247,643	441,082	927,388	1,756,117	2,731,057	2,908,196
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 6

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	-0.3%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.1%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	1.3%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.3%	0.3%	0.2%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	4.0%	5.6%	7.1%	7.3%	7.1%	7.2%

Table 7

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 7

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	6,299,758	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	4.5%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	2,015,923	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	403,185	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.3%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	2,015,923	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 7

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	559,200	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,135,516	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	342,576	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	2,037,292	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	1.4%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	3.3%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	1,639,138	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	1,518,741	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	120,396	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	1,474,085	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	4,752,360	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	3.4%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	7.7%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 7

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	286,344	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	141,940	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	147,965	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	576,248	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.4%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	1,273,723	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,198,995	103,804,163	148,648,066	190,529,859	198,702,442	203,056,242
- as % of GNP	47.7%	42.2%	39.2%	33.8%	24.8%	17.4%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,459,026	3,645,286	5,225,857	6,715,849	7,028,895	7,157,669
Tax foregone on investment income	491,805	729,057	1,045,171	1,343,170	1,405,779	1,431,534
- as % of GNP	0.3%	0.3%	0.3%	0.2%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,898,342	3,818,131	7,043,244	10,851,024	11,581,241
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,116,734	1,898,342	3,818,131	7,043,244	10,851,024	11,581,241
Tax revenue from pensions in payment (total)	245,682	417,635	839,989	1,549,514	2,387,225	2,547,873
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 7

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	-0.3%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.1%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	1.3%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.3%	0.3%	0.3%	0.2%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	3.9%	5.5%	7.1%	7.4%	7.5%	7.6%

Table 8

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 8

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	6,299,758	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	4.5%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	2,015,923	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	403,185	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.3%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	2,015,923	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 8

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	559,200	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,135,516	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	342,576	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	2,037,292	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	1.4%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	3.3%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	1,639,138	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	1,518,741	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	120,396	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	1,474,085	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	4,752,360	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	3.4%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	7.7%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 8

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	286,344	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	141,940	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	147,965	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	576,248	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.4%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	1,273,723	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	66,861,353	112,074,730	169,130,056	222,598,731	233,759,220	236,339,954
- as % of GNP	47.4%	45.6%	44.6%	39.5%	29.2%	20.3%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	3,091,148	5,022,803	7,602,391	10,049,381	10,609,200	10,693,245
Tax foregone on investment income	618,230	1,004,561	1,520,478	2,009,876	2,121,840	2,138,649
- as % of GNP	0.4%	0.4%	0.4%	0.4%	0.3%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,118,187	4,652,037	9,041,410	14,199,175	15,086,156
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,134,787	2,118,187	4,652,037	9,041,410	14,199,175	15,086,156
Tax revenue from pensions in payment (total)	249,653	466,001	1,023,448	1,989,110	3,123,819	3,318,954
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%

Table 8

Model	Model A - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	-0.3%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	1.4%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.1%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	1.3%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.4%	0.3%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	4.0%	5.6%	7.1%	7.1%	6.6%	6.5%

Table 9

Model	Model A - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 9

Model	Model A - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	6,298,550	13,330,229	27,211,196	52,589,042	95,971,592	157,520,183
- as % of GNP	4.6%	5.8%	7.8%	10.4%	13.6%	15.6%
Additional payments for this system (over 34%)	2,015,536	4,265,673	8,707,583	16,828,493	30,710,910	50,406,459
Tax revenues on additional payments	403,107	853,135	1,741,517	3,365,699	6,142,182	10,081,292
- as % of GNP	0.3%	0.4%	0.5%	0.7%	0.9%	1.0%
Cost of unfunded pensions	2,015,536	3,888,108	6,343,782	8,596,971	8,604,500	6,009,539
- as % of GNP	1.5%	1.7%	1.8%	1.7%	1.2%	0.6%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 9

Model	Model A - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	545,717	928,392	1,341,367	1,533,536	1,249,119	1,720,359
Contributions - voluntary - employer	1,102,952	1,300,868	1,246,874	871,588	297,427	189,404
Contributions - voluntary - self-employed	333,433	791,802	1,643,688	2,500,546	2,753,169	4,172,772
Contributions - voluntary - Total	1,982,103	3,021,062	4,231,929	4,905,670	4,299,715	6,082,534
- as % of GNP	1.4%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	3.3%	3.0%	2.8%	2.3%	1.4%	1.4%
Contributions - mandatory - employee	1,570,029	2,729,467	4,447,146	7,135,005	10,130,393	14,381,374
Contributions - mandatory - employer - private	1,449,632	2,471,526	3,571,770	5,046,291	7,026,674	9,779,707
Contributions - mandatory - employer - public	120,396	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	1,403,672	2,549,762	3,896,744	5,501,878	7,390,676	10,426,923
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	4,543,730	8,008,695	12,791,036	19,771,888	27,651,462	39,189,670
- as % of GNP	3.3%	3.5%	3.7%	3.9%	3.9%	3.9%
- as % of labour force earnings	7.7%	7.9%	8.6%	9.3%	9.3%	9.3%

Table 9

Model	Model A - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	279,544	479,695	699,525	807,593	675,665	938,862
Tax relief - voluntary contribs - employer	137,869	162,608	155,859	108,949	37,178	23,675
Tax relief - voluntary contribs - self-employed	144,054	348,290	734,331	1,133,290	1,288,281	1,961,203
Tax relief - voluntary contribs - Total	561,468	990,594	1,589,716	2,049,832	2,001,124	2,923,741
- as % of GNP	0.4%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	1,217,683	2,191,493	3,465,491	5,257,821	7,335,798	10,384,137
- as % of GNP	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	66,953,991	106,407,534	153,105,639	191,847,664	192,695,138	189,440,441
- as % of GNP	48.4%	46.2%	44.0%	38.1%	27.3%	18.8%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,774,647	4,256,503	6,140,111	7,724,179	7,790,985	7,635,069
Tax foregone on investment income	554,929	851,301	1,228,022	1,544,836	1,558,197	1,527,014
- as % of GNP	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,004,247	4,179,235	7,769,476	11,586,836	11,851,575
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,126,893	2,004,247	4,179,235	7,769,476	11,586,836	11,851,575
Tax revenue from pensions in payment (total)	247,916	440,934	919,432	1,709,285	2,549,104	2,607,347
- as % of GNP	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%

Table 9

Model	Model A - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	-0.3%	-0.4%	-0.5%	-0.7%	-0.9%	-1.0%
Pillar 1 cost of unfunded increase in pension	1.5%	1.7%	1.8%	1.7%	1.2%	0.6%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.1%	1.9%	2.7%	3.3%	3.6%	3.8%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	1.3%	1.4%	1.5%	1.4%	1.3%	1.3%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	4.2%	6.0%	7.8%	7.9%	7.5%	8.1%

Table 10

Model	Model A - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477
GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 10

Model	Model A - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	6,313,774	13,699,542	28,541,855	56,995,800	113,346,826	212,156,718
- as % of GNP	4.4%	5.1%	6.4%	8.1%	10.7%	13.1%
Additional payments for this system (over 34%)	2,020,408	4,383,853	9,133,394	18,238,656	36,270,984	67,890,150
Tax revenues on additional payments	404,082	876,771	1,826,679	3,647,731	7,254,197	13,578,030
- as % of GNP	0.3%	0.3%	0.4%	0.5%	0.7%	0.8%
Cost of unfunded pensions	2,020,408	3,993,055	6,638,162	9,215,253	9,524,368	6,895,342
- as % of GNP	1.4%	1.5%	1.5%	1.3%	0.9%	0.4%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 10

Model	Model A - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	567,942	1,023,880	1,631,482	2,188,154	2,152,445	3,053,924
Contributions - voluntary - employer	1,156,523	1,435,758	1,455,465	1,101,470	457,380	349,347
Contributions - voluntary - self-employed	348,540	910,020	2,139,289	3,827,762	4,834,332	7,419,568
Contributions - voluntary - Total	2,073,005	3,369,657	5,226,236	7,117,386	7,444,156	10,822,839
- as % of GNP	1.5%	1.2%	1.2%	1.0%	0.7%	0.7%
- as % of labour force earnings	3.3%	2.7%	2.6%	2.3%	1.6%	1.5%
Contributions - mandatory - employee	1,684,710	3,435,398	5,988,977	10,040,286	15,230,457	23,009,259
Contributions - mandatory - employer - private	1,564,314	3,177,458	5,113,600	7,951,572	12,126,738	18,407,592
Contributions - mandatory - employer - public	120,396	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	1,520,300	3,249,611	5,551,118	8,600,395	12,722,676	19,672,233
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	4,889,721	10,120,408	17,529,072	28,680,966	43,183,590	65,690,751
- as % of GNP	3.4%	3.7%	4.0%	4.1%	4.1%	4.1%
- as % of labour force earnings	7.8%	8.2%	8.8%	9.3%	9.3%	9.3%

Table 10

Model	Model A - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	290,749	529,940	854,368	1,160,061	1,167,022	1,666,810
Tax relief - voluntary contribs - employer	144,565	179,470	181,933	137,684	57,172	43,668
Tax relief - voluntary contribs - self-employed	150,514	402,668	964,042	1,751,723	2,265,752	3,487,197
Tax relief - voluntary contribs - Total	585,829	1,112,078	2,000,343	3,049,468	3,489,946	5,197,675
- as % of GNP	0.4%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	1,310,375	2,793,198	4,856,660	7,842,561	11,810,624	18,096,981
- as % of GNP	0.9%	1.0%	1.1%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,051,185	109,080,639	164,095,460	223,313,647	253,947,173	284,296,114
- as % of GNP	47.0%	40.2%	37.0%	31.9%	24.0%	17.6%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,776,805	4,357,621	6,564,715	8,955,181	10,217,974	11,401,551
Tax foregone on investment income	555,361	871,524	1,312,943	1,791,036	2,043,595	2,280,310
- as % of GNP	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	1,999,353	4,244,824	8,198,279	13,376,211	15,505,215
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,124,795	1,999,353	4,244,824	8,198,279	13,376,211	15,505,215
Tax revenue from pensions in payment (total)	247,455	439,858	933,861	1,803,621	2,942,766	3,411,147
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 10

Model	Model A - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	-0.3%	-0.3%	-0.4%	-0.5%	-0.7%	-0.8%
Pillar 1 cost of unfunded increase in pension	1.4%	1.5%	1.5%	1.3%	0.9%	0.4%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.1%	1.6%	2.1%	2.4%	2.4%	2.4%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	1.3%	1.4%	1.5%	1.6%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	4.0%	5.0%	6.3%	6.1%	5.4%	5.2%

Table 11

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 11

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 11

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,671	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,525,987	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	1,297,060	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	3,772,718	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	2.7%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	163,914	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	151,874	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	12,040	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	147,408	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	0.3%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	0.8%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 11

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,004	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	190,748	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	515,226	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	1,172,978	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.8%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.1%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,823,244	121,712,438	176,421,106	225,069,473	229,973,772	227,436,454
- as % of GNP	48.8%	49.5%	46.5%	40.0%	28.7%	19.5%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,815,008	4,871,428	7,075,557	9,058,193	9,296,114	9,163,107
Tax foregone on investment income	563,002	974,286	1,415,111	1,811,639	1,859,223	1,832,621
- as % of GNP	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,053,534	4,443,006	8,602,510	13,498,966	14,173,675
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,125,648	2,053,534	4,443,006	8,602,510	13,498,966	14,173,675
Tax revenue from pensions in payment (total)	247,643	451,778	977,461	1,892,552	2,969,772	3,118,208
- as % of GNP	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%

Table 11

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.6%	7.1%	7.3%	7.0%	7.1%

Table 12

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 12

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 12

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,671	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,525,987	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	1,297,060	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	3,772,718	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	2.7%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	163,914	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	151,874	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	12,040	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	147,408	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	0.3%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	0.8%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 12

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,004	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	190,748	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	515,226	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	1,172,978	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.8%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.1%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,000,552	117,143,511	165,118,273	207,546,480	211,270,645	210,274,518
- as % of GNP	48.9%	47.6%	43.6%	36.8%	26.4%	18.0%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,493,355	4,119,411	5,812,684	7,324,623	7,480,911	7,419,369
Tax foregone on investment income	498,671	823,882	1,162,537	1,464,925	1,496,182	1,483,874
- as % of GNP	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,943,031	4,020,331	7,574,199	11,750,505	12,361,777
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,116,734	1,943,031	4,020,331	7,574,199	11,750,505	12,361,777
Tax revenue from pensions in payment (total)	245,682	427,467	884,473	1,666,324	2,585,111	2,719,591
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 12

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.5%	7.1%	7.5%	7.5%	7.6%

Table 13

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 13

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.4%	7.2%	9.5%	12.7%	15.0%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.3%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 13

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,671	976,566	1,475,149	1,788,534	1,502,830	2,085,136
Contributions - voluntary - employer	1,525,987	1,373,083	1,348,765	974,212	349,391	233,499
Contributions - voluntary - self-employed	1,297,060	846,550	1,858,650	2,987,784	3,325,479	5,061,190
Contributions - voluntary - Total	3,772,718	3,196,198	4,682,564	5,750,530	5,177,699	7,379,825
- as % of GNP	2.7%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.4%	1.5%	1.5%
Contributions - mandatory - employee	163,914	3,026,663	4,988,637	8,057,759	11,579,086	16,719,757
Contributions - mandatory - employer - private	151,874	2,768,723	4,113,260	5,969,045	8,475,367	12,118,090
Contributions - mandatory - employer - public	12,040	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	147,408	2,854,440	4,493,948	6,485,246	8,903,177	12,953,529
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,907,766	14,471,221	22,600,764	32,061,349	46,393,042
- as % of GNP	0.3%	3.6%	3.8%	4.0%	4.0%	4.0%
- as % of labour force earnings	0.8%	8.1%	8.6%	9.3%	9.3%	9.3%

Table 13

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,004	504,939	770,595	944,096	813,378	1,137,988
Tax relief - voluntary contribs - employer	190,748	171,635	168,596	121,776	43,674	29,187
Tax relief - voluntary contribs - self-employed	515,226	373,263	833,312	1,358,890	1,556,780	2,378,759
Tax relief - voluntary contribs - Total	1,172,978	1,049,837	1,772,502	2,424,763	2,413,832	3,545,935
- as % of GNP	0.8%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,451,017	3,961,661	6,073,776	8,607,155	12,486,553
- as % of GNP	0.1%	1.0%	1.0%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,680,384	126,491,367	188,615,689	244,453,934	250,916,706	246,723,259
- as % of GNP	48.7%	51.4%	49.8%	43.4%	31.3%	21.2%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	3,134,967	5,675,135	8,487,183	11,047,941	11,400,344	11,175,582
Tax foregone on investment income	626,993	1,135,027	1,697,437	2,209,588	2,280,069	2,235,116
- as % of GNP	0.4%	0.5%	0.4%	0.4%	0.3%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,170,977	4,907,803	9,764,668	15,506,299	16,251,581
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,134,787	2,170,977	4,907,803	9,764,668	15,506,299	16,251,581
Tax revenue from pensions in payment (total)	249,653	477,615	1,079,717	2,148,227	3,411,386	3,575,348
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%

Table 13

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.3%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.5%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.4%	3.0%	3.2%	3.3%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	1.4%	1.5%	1.5%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.4%	0.4%	0.3%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.7%	7.1%	7.1%	6.6%	6.5%

Table 14

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 14

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,484,567	13,330,229	27,211,196	52,589,042	95,971,592	157,520,183
- as % of GNP	3.2%	5.8%	7.8%	10.4%	13.6%	15.6%
Additional payments for this system (over 34%)	201,554	4,265,673	8,707,583	16,828,493	30,710,910	50,406,459
Tax revenues on additional payments	40,311	853,135	1,741,517	3,365,699	6,142,182	10,081,292
- as % of GNP	0.0%	0.4%	0.5%	0.7%	0.9%	1.0%
Cost of unfunded pensions	201,554	3,888,108	6,343,782	8,596,971	8,604,500	6,009,539
- as % of GNP	0.1%	1.7%	1.8%	1.7%	1.2%	0.6%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 14

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	919,270	928,392	1,341,367	1,533,536	1,249,119	1,720,359
Contributions - voluntary - employer	1,476,505	1,300,868	1,246,874	871,588	297,427	189,404
Contributions - voluntary - self-employed	1,246,562	791,802	1,643,688	2,500,546	2,753,169	4,172,772
Contributions - voluntary - Total	3,642,337	3,021,062	4,231,929	4,905,670	4,299,715	6,082,534
- as % of GNP	2.6%	1.3%	1.2%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.2%	3.0%	2.8%	2.3%	1.4%	1.4%
Contributions - mandatory - employee	157,003	2,729,467	4,447,146	7,135,005	10,130,393	14,381,374
Contributions - mandatory - employer - private	144,963	2,471,526	3,571,770	5,046,291	7,026,674	9,779,707
Contributions - mandatory - employer - public	12,040	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	140,367	2,549,762	3,896,744	5,501,878	7,390,676	10,426,923
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	454,373	8,008,695	12,791,036	19,771,888	27,651,462	39,189,670
- as % of GNP	0.3%	3.5%	3.7%	3.9%	3.9%	3.9%
- as % of labour force earnings	0.8%	7.9%	8.6%	9.3%	9.3%	9.3%

Table 14

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	452,429	479,695	699,525	807,593	675,665	938,862
Tax relief - voluntary contribs - employer	184,563	162,608	155,859	108,949	37,178	23,675
Tax relief - voluntary contribs - self-employed	495,550	348,290	734,331	1,133,290	1,288,281	1,961,203
Tax relief - voluntary contribs - Total	1,132,542	990,594	1,589,716	2,049,832	2,001,124	2,923,741
- as % of GNP	0.8%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	121,768	2,191,493	3,465,491	5,257,821	7,335,798	10,384,137
- as % of GNP	0.1%	1.0%	1.0%	1.0%	1.0%	1.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,685,849	119,473,939	169,907,405	209,787,700	206,264,412	197,389,754
- as % of GNP	49.7%	51.9%	48.9%	41.6%	29.2%	19.6%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,812,008	4,784,520	6,821,178	8,455,235	8,347,973	7,964,017
Tax foregone on investment income	562,402	956,904	1,364,236	1,691,047	1,669,595	1,592,803
- as % of GNP	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,052,013	4,400,860	8,363,142	12,600,653	12,733,722
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,126,893	2,052,013	4,400,860	8,363,142	12,600,653	12,733,722
Tax revenue from pensions in payment (total)	247,916	451,443	968,189	1,839,891	2,772,144	2,801,419
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%

Table 14

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	-0.4%	-0.5%	-0.7%	-0.9%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.7%	1.8%	1.7%	1.2%	0.6%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.9%	2.7%	3.3%	3.6%	3.8%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	1.4%	1.5%	1.4%	1.3%	1.3%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.3%	0.2%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.6%	6.0%	7.8%	7.8%	7.5%	8.1%

Table 15

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477

GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 15

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,495,407	13,699,542	28,541,855	56,995,800	113,346,826	212,156,718
- as % of GNP	3.1%	5.1%	6.4%	8.1%	10.7%	13.1%
Additional payments for this system (over 34%)	202,041	4,383,853	9,133,394	18,238,656	36,270,984	67,890,150
Tax revenues on additional payments	40,408	876,771	1,826,679	3,647,731	7,254,197	13,578,030
- as % of GNP	0.0%	0.3%	0.4%	0.5%	0.7%	0.8%
Cost of unfunded pensions	202,041	3,993,055	6,638,162	9,215,253	9,524,368	6,895,342
- as % of GNP	0.1%	1.5%	1.5%	1.3%	0.9%	0.4%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 15

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	969,400	1,023,880	1,631,482	2,188,154	2,152,445	3,053,924
Contributions - voluntary - employer	1,557,981	1,435,758	1,455,465	1,101,470	457,380	349,347
Contributions - voluntary - self-employed	1,329,883	910,020	2,139,289	3,827,762	4,834,332	7,419,568
Contributions - voluntary - Total	3,857,265	3,369,657	5,226,236	7,117,386	7,444,156	10,822,839
- as % of GNP	2.7%	1.2%	1.2%	1.0%	0.7%	0.7%
- as % of labour force earnings	6.1%	2.7%	2.6%	2.3%	1.6%	1.5%
Contributions - mandatory - employee	168,471	3,435,398	5,988,977	10,040,286	15,230,457	23,009,259
Contributions - mandatory - employer - private	156,431	3,177,458	5,113,600	7,951,572	12,126,738	18,407,592
Contributions - mandatory - employer - public	12,040	257,940	875,376	2,088,714	3,103,719	4,601,667
Contributions - mandatory - self-employed	152,030	3,249,611	5,551,118	8,600,395	12,722,676	19,672,233
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	488,972	10,120,408	17,529,072	28,680,966	43,183,590	65,690,751
- as % of GNP	0.3%	3.7%	4.0%	4.1%	4.1%	4.1%
- as % of labour force earnings	0.8%	8.2%	8.8%	9.3%	9.3%	9.3%

Table 15

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	476,443	529,940	854,368	1,160,061	1,167,022	1,666,810
Tax relief - voluntary contribs - employer	194,748	179,470	181,933	137,684	57,172	43,668
Tax relief - voluntary contribs - self-employed	527,974	402,668	964,042	1,751,723	2,265,752	3,487,197
Tax relief - voluntary contribs - Total	1,199,165	1,112,078	2,000,343	3,049,468	3,489,946	5,197,675
- as % of GNP	0.8%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	131,037	2,793,198	4,856,660	7,842,561	11,810,624	18,096,981
- as % of GNP	0.1%	1.0%	1.1%	1.1%	1.1%	1.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,912,419	123,576,793	182,886,870	243,658,198	269,523,865	293,525,460
- as % of GNP	48.3%	45.6%	41.3%	34.8%	25.4%	18.2%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,816,956	4,943,333	7,326,233	9,783,949	10,857,241	11,783,170
Tax foregone on investment income	563,391	988,667	1,465,247	1,956,790	2,171,448	2,356,634
- as % of GNP	0.4%	0.4%	0.3%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,048,380	4,476,713	8,838,734	14,516,105	16,516,666
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,124,795	2,048,380	4,476,713	8,838,734	14,516,105	16,516,666
Tax revenue from pensions in payment (total)	247,455	450,644	984,877	1,944,521	3,193,543	3,633,667
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 15

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	-0.3%	-0.4%	-0.5%	-0.7%	-0.8%
Pillar 1 cost of unfunded increase in pension	0.1%	1.5%	1.5%	1.3%	0.9%	0.4%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.1%	2.4%	2.4%	2.4%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	1.4%	1.5%	1.6%	1.4%	1.4%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.3%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.1%	6.3%	6.1%	5.4%	5.2%

Table 16

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 16

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.5%	7.3%	9.7%	13.0%	15.3%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.4%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 16

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,592,213	-5,112,281	-21,708,104	-40,486,447
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.8%	-3.5%
Closing fund size	16,218,533	58,016,728	152,401,656	282,571,987	366,743,285	256,186,677
- as % of GNP	11.5%	23.8%	40.7%	50.9%	46.6%	22.4%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,668	897,806	1,328,272	1,572,151	1,271,258	1,720,041
Contributions - voluntary - employer	1,525,971	1,263,745	1,212,249	852,188	294,921	193,310
Contributions - voluntary - self-employed	1,297,075	768,261	1,661,849	2,616,100	2,809,928	4,175,035
Contributions - voluntary - Total	3,772,714	2,929,813	4,202,370	5,040,438	4,376,107	6,088,386
- as % of GNP	2.7%	1.2%	1.1%	0.9%	0.6%	0.5%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.3%	1.5%	1.4%
Contributions - mandatory - employee	163,913	2,778,442	4,497,528	7,144,913	10,065,810	14,239,822
Contributions - mandatory - employer - private	151,874	2,533,398	3,676,863	5,212,853	7,233,666	10,097,688
Contributions - mandatory - employer - public	12,040	245,043	820,665	1,932,060	2,832,144	4,142,133
Contributions - mandatory - self-employed	147,409	2,613,036	4,025,675	5,675,124	7,588,421	10,777,895
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,169,919	13,020,732	19,964,950	27,720,042	39,257,539
- as % of GNP	0.3%	3.4%	3.5%	3.6%	3.5%	3.4%
- as % of labour force earnings	0.8%	8.0%	8.6%	9.3%	9.3%	9.3%

Table 16

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,003	464,632	694,301	830,061	688,146	938,775
Tax relief - voluntary contribs - employer	190,746	157,968	151,531	106,523	36,865	24,164
Tax relief - voluntary contribs - self-employed	515,232	337,639	743,224	1,187,472	1,314,966	1,962,266
Tax relief - voluntary contribs - Total	1,172,981	960,240	1,589,056	2,124,057	2,039,977	2,925,205
- as % of GNP	0.8%	0.4%	0.4%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,243,493	3,554,962	5,345,506	7,406,457	10,507,432
- as % of GNP	0.1%	0.9%	0.9%	1.0%	0.9%	0.9%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,823,240	119,895,293	170,024,030	211,701,104	210,355,378	200,684,966
- as % of GNP	48.8%	49.2%	45.4%	38.2%	26.7%	17.6%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,815,008	4,803,175	6,825,695	8,528,867	8,512,795	8,097,738
Tax foregone on investment income	563,002	960,635	1,365,139	1,705,773	1,702,559	1,619,548
- as % of GNP	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,059,582	4,364,136	8,276,334	12,679,902	12,966,831
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,125,648	2,059,582	4,364,136	8,276,334	12,679,902	12,966,831
Tax revenue from pensions in payment (total)	247,643	453,108	960,110	1,820,793	2,789,578	2,852,703
- as % of GNP	0.2%	0.2%	0.3%	0.3%	0.4%	0.2%

Table 16

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.4%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.3%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.8%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.3%	1.4%	1.3%	1.2%	1.2%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.5%	7.1%	7.2%	6.9%	7.1%

Table 17

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 17

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.5%	7.3%	9.7%	13.0%	15.3%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.4%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 17

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,717,443	-3,952,693	-18,491,062	-34,840,414
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.4%	-3.1%
Closing fund size	16,077,526	55,656,014	142,034,015	257,734,709	328,269,189	225,321,255
- as % of GNP	11.4%	22.9%	37.9%	46.5%	41.7%	19.7%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,668	897,806	1,328,272	1,572,151	1,271,258	1,720,041
Contributions - voluntary - employer	1,525,971	1,263,745	1,212,249	852,188	294,921	193,310
Contributions - voluntary - self-employed	1,297,075	768,261	1,661,849	2,616,100	2,809,928	4,175,035
Contributions - voluntary - Total	3,772,714	2,929,813	4,202,370	5,040,438	4,376,107	6,088,386
- as % of GNP	2.7%	1.2%	1.1%	0.9%	0.6%	0.5%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.3%	1.5%	1.4%
Contributions - mandatory - employee	163,913	2,778,442	4,497,528	7,144,913	10,065,810	14,239,822
Contributions - mandatory - employer - private	151,874	2,533,398	3,676,863	5,212,853	7,233,666	10,097,688
Contributions - mandatory - employer - public	12,040	245,043	820,665	1,932,060	2,832,144	4,142,133
Contributions - mandatory - self-employed	147,409	2,613,036	4,025,675	5,675,124	7,588,421	10,777,895
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,169,919	13,020,732	19,964,950	27,720,042	39,257,539
- as % of GNP	0.3%	3.4%	3.5%	3.6%	3.5%	3.4%
- as % of labour force earnings	0.8%	8.0%	8.6%	9.3%	9.3%	9.3%

Table 17

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,003	464,632	694,301	830,061	688,146	938,775
Tax relief - voluntary contribs - employer	190,746	157,968	151,531	106,523	36,865	24,164
Tax relief - voluntary contribs - self-employed	515,232	337,639	743,224	1,187,472	1,314,966	1,962,266
Tax relief - voluntary contribs - Total	1,172,981	960,240	1,589,056	2,124,057	2,039,977	2,925,205
- as % of GNP	0.8%	0.4%	0.4%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,243,493	3,554,962	5,345,506	7,406,457	10,507,432
- as % of GNP	0.1%	0.9%	0.9%	1.0%	0.9%	0.9%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,000,548	115,368,761	158,956,218	194,804,021	192,680,861	184,923,504
- as % of GNP	48.9%	47.4%	42.5%	35.1%	24.5%	16.2%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,493,355	4,060,843	5,601,412	6,882,030	6,830,353	6,534,607
Tax foregone on investment income	498,671	812,169	1,120,282	1,376,406	1,366,071	1,306,921
- as % of GNP	0.4%	0.3%	0.3%	0.2%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,948,428	3,948,440	7,280,227	11,017,783	11,283,832
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,116,734	1,948,428	3,948,440	7,280,227	11,017,783	11,283,832
Tax revenue from pensions in payment (total)	245,682	428,654	868,657	1,601,650	2,423,912	2,482,443
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 17

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.4%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.3%	3.3%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.4%	-3.1%
Pillar 2 - tax relief on contributions	0.9%	1.3%	1.4%	1.3%	1.2%	1.2%
Pillar 2 - tax foregone on investment income	0.4%	0.3%	0.3%	0.2%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.4%	7.1%	7.3%	7.4%	7.5%

Table 18

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 18

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,485,428	13,389,114	27,475,920	53,758,270	101,901,984	174,850,201
- as % of GNP	3.2%	5.5%	7.3%	9.7%	13.0%	15.3%
Additional payments for this system (over 34%)	201,592	4,284,516	8,792,295	17,202,646	32,608,635	55,952,064
Tax revenues on additional payments	40,318	856,903	1,758,459	3,440,529	6,521,727	11,190,413
- as % of GNP	0.0%	0.4%	0.5%	0.6%	0.8%	1.0%
Cost of unfunded pensions	201,592	3,901,304	6,383,770	8,699,147	8,742,941	6,120,159
- as % of GNP	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 18

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,446,886	-6,457,972	-25,441,448	-47,038,611
- as % of GNP	1.0%	1.0%	0.7%	-1.2%	-3.2%	-4.1%
Closing fund size	16,360,183	60,486,589	163,646,808	310,045,778	409,968,244	291,330,122
- as % of GNP	11.6%	24.8%	43.7%	55.9%	52.1%	25.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,668	897,806	1,328,272	1,572,151	1,271,258	1,720,041
Contributions - voluntary - employer	1,525,971	1,263,745	1,212,249	852,188	294,921	193,310
Contributions - voluntary - self-employed	1,297,075	768,261	1,661,849	2,616,100	2,809,928	4,175,035
Contributions - voluntary - Total	3,772,714	2,929,813	4,202,370	5,040,438	4,376,107	6,088,386
- as % of GNP	2.7%	1.2%	1.1%	0.9%	0.6%	0.5%
- as % of labour force earnings	6.1%	2.9%	2.8%	2.3%	1.5%	1.4%
Contributions - mandatory - employee	163,913	2,778,442	4,497,528	7,144,913	10,065,810	14,239,822
Contributions - mandatory - employer - private	151,874	2,533,398	3,676,863	5,212,853	7,233,666	10,097,688
Contributions - mandatory - employer - public	12,040	245,043	820,665	1,932,060	2,832,144	4,142,133
Contributions - mandatory - self-employed	147,409	2,613,036	4,025,675	5,675,124	7,588,421	10,777,895
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	475,236	8,169,919	13,020,732	19,964,950	27,720,042	39,257,539
- as % of GNP	0.3%	3.4%	3.5%	3.6%	3.5%	3.4%
- as % of labour force earnings	0.8%	8.0%	8.6%	9.3%	9.3%	9.3%

Table 18

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	467,003	464,632	694,301	830,061	688,146	938,775
Tax relief - voluntary contribs - employer	190,746	157,968	151,531	106,523	36,865	24,164
Tax relief - voluntary contribs - self-employed	515,232	337,639	743,224	1,187,472	1,314,966	1,962,266
Tax relief - voluntary contribs - Total	1,172,981	960,240	1,589,056	2,124,057	2,039,977	2,925,205
- as % of GNP	0.8%	0.4%	0.4%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	127,372	2,243,493	3,554,962	5,345,506	7,406,457	10,507,432
- as % of GNP	0.1%	0.9%	0.9%	1.0%	0.9%	0.9%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,680,380	124,630,452	181,972,013	230,419,089	230,195,637	218,468,032
- as % of GNP	48.7%	51.2%	48.6%	41.5%	29.3%	19.1%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	3,134,967	5,596,767	8,196,022	10,424,057	10,470,830	9,911,182
Tax foregone on investment income	626,993	1,119,353	1,639,204	2,084,811	2,094,166	1,982,236
- as % of GNP	0.4%	0.5%	0.4%	0.4%	0.3%	0.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,177,728	4,821,410	9,403,252	14,591,684	14,901,906
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,134,787	2,177,728	4,821,410	9,403,252	14,591,684	14,901,906
Tax revenue from pensions in payment (total)	249,653	479,100	1,060,710	2,068,715	3,210,171	3,278,419
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%

Table 18

Model	Model A - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.4%	-0.5%	-0.6%	-0.8%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.6%	1.7%	1.6%	1.1%	0.5%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.3%	3.3%
NPRF	1.0%	1.0%	0.7%	-1.2%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	1.3%	1.4%	1.3%	1.2%	1.2%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.4%	0.4%	0.3%	0.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.6%	7.1%	6.9%	6.6%	6.5%

Table 19

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,880,306	1,854,674	1,780,046	1,643,166	1,554,585
- DB members (private sector)	221,722	178,736	115,497	56,192	9,356	654
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,455	202,699	173,982	127,952	69,710	59,505
- RAC/PRSA holders	258,445	247,743	212,644	156,385	85,201	72,728
- Others	883,636	978,620	1,080,043	1,167,010	1,206,392	1,149,190
Total labour force earnings (18-65)	59,180,771	92,970,578	134,686,207	188,211,115	257,621,566	357,344,737

GNP						
Real GNP	132,117,095	178,554,962	220,777,446	261,930,960	300,321,519	350,836,111
Nominal GNP	138,264,239	227,784,671	343,327,817	496,526,966	693,975,557	988,242,959

Table 19

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.4%	7.2%	9.4%	10.8%
Total pension payments for this system	4,484,567	13,330,229	27,211,196	52,589,042	95,971,592	157,520,183
- as % of GNP	3.2%	5.9%	7.9%	10.6%	13.8%	15.9%
Additional payments for this system (over 34%)	201,554	4,265,673	8,707,583	16,828,493	30,710,910	50,406,459
Tax revenues on additional payments	40,311	853,135	1,741,517	3,365,699	6,142,182	10,081,292
- as % of GNP	0.0%	0.4%	0.5%	0.7%	0.9%	1.0%
Cost of unfunded pensions	201,554	3,888,108	6,343,782	8,596,971	8,604,500	6,009,539
- as % of GNP	0.1%	1.7%	1.8%	1.7%	1.2%	0.6%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.3%	3.1%	3.8%	4.2%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.5%	2.9%	3.3%	3.4%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 19

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,277,847	2,177,426	-6,014,579	-20,718,561	-34,403,755
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.5%
Closing fund size	16,175,959	56,636,414	146,416,310	260,936,306	319,930,346	217,697,144
- as % of GNP	11.7%	24.9%	42.6%	52.6%	46.1%	22.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	919,268	853,395	1,207,356	1,346,554	1,052,166	1,411,356
Contributions - voluntary - employer	1,476,490	1,197,452	1,120,798	762,376	250,694	156,064
Contributions - voluntary - self-employed	1,246,576	717,755	1,467,581	2,185,003	2,315,283	3,423,163
Contributions - voluntary - Total	3,642,334	2,768,602	3,795,735	4,293,934	3,618,143	4,990,583
- as % of GNP	2.6%	1.2%	1.1%	0.9%	0.5%	0.5%
- as % of labour force earnings	6.2%	3.0%	2.8%	2.3%	1.4%	1.4%
Contributions - mandatory - employee	157,002	2,504,680	4,009,102	6,330,066	8,813,252	12,260,932
Contributions - mandatory - employer - private	144,963	2,259,636	3,188,437	4,398,005	5,981,108	8,118,799
Contributions - mandatory - employer - public	12,040	245,043	820,665	1,932,060	2,832,144	4,142,133
Contributions - mandatory - self-employed	140,368	2,332,066	3,486,422	4,805,860	6,280,777	8,639,727
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	454,373	7,341,425	11,504,627	17,465,991	23,907,281	33,161,592
- as % of GNP	0.3%	3.2%	3.4%	3.5%	3.4%	3.4%
- as % of labour force earnings	0.8%	7.9%	8.5%	9.3%	9.3%	9.3%

Table 19

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	452,427	441,334	630,024	709,252	569,186	770,264
Tax relief - voluntary contribs - employer	184,561	149,682	140,100	95,297	31,337	19,508
Tax relief - voluntary contribs - self-employed	495,556	314,625	653,850	988,018	1,082,934	1,608,887
Tax relief - voluntary contribs - Total	1,132,545	905,641	1,423,974	1,792,567	1,683,457	2,398,659
- as % of GNP	0.8%	0.4%	0.4%	0.4%	0.2%	0.2%
Tax relief - mandatory contributions - Total	121,768	2,004,347	3,107,249	4,624,702	6,307,274	8,728,231
- as % of GNP	0.1%	0.9%	0.9%	0.9%	0.9%	0.9%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,685,845	117,743,491	163,949,623	197,785,175	189,193,199	174,389,134
- as % of GNP	49.7%	51.7%	47.8%	39.8%	27.3%	17.6%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,812,008	4,719,477	6,588,171	7,979,268	7,665,906	7,047,515
Tax foregone on investment income	562,402	943,895	1,317,634	1,595,854	1,533,181	1,409,503
- as % of GNP	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,058,337	4,324,784	8,055,281	11,865,099	11,681,983
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,126,893	2,058,337	4,324,784	8,055,281	11,865,099	11,681,983
Tax revenue from pensions in payment (total)	247,916	452,834	951,453	1,772,162	2,610,322	2,570,036
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%

Table 19

Model	Model A - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	4.0%	5.4%	7.2%	9.4%	10.8%
Pillar 1 tax revenue from increased pensions	0.0%	-0.4%	-0.5%	-0.7%	-0.9%	-1.0%
Pillar 1 cost of unfunded increase in pension	0.1%	1.7%	1.8%	1.7%	1.2%	0.6%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.9%	2.7%	3.3%	3.7%	3.8%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.3%	1.3%	1.3%	1.2%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.6%	6.0%	7.7%	7.8%	7.7%	7.9%

Table 20

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,310,168	2,465,867	2,582,991	2,587,970	2,612,820
- DB members (private sector)	233,445	195,395	131,552	68,086	13,143	910
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,720	232,506	216,479	175,310	116,080	114,543
- RAC/PRSA holders	278,324	284,174	264,585	214,268	141,876	139,997
- Others	967,476	1,325,585	1,580,743	1,852,819	2,044,363	2,084,863
Total labour force earnings (18-65)	62,909,122	113,939,794	180,756,643	273,017,759	402,330,412	599,016,014

GNP						
Real GNP	136,460,812	210,499,284	281,325,384	363,663,410	450,614,260	562,400,973
Nominal GNP	142,810,060	268,536,419	437,485,042	689,375,130	1,041,268,317	1,584,183,566

Table 20

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.5%	4.4%	5.6%	7.4%	9.1%
Total pension payments for this system	4,495,407	13,699,542	28,541,855	56,995,800	113,346,826	212,156,718
- as % of GNP	3.1%	5.1%	6.5%	8.3%	10.9%	13.4%
Additional payments for this system (over 34%)	202,041	4,383,853	9,133,394	18,238,656	36,270,984	67,890,150
Tax revenues on additional payments	40,408	876,771	1,826,679	3,647,731	7,254,197	13,578,030
- as % of GNP	0.0%	0.3%	0.4%	0.5%	0.7%	0.9%
Cost of unfunded pensions	202,041	3,993,055	6,638,162	9,215,253	9,524,368	6,895,342
- as % of GNP	0.1%	1.5%	1.5%	1.3%	0.9%	0.4%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.5%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 20

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,685,364	3,370,490	-3,344,539	-22,451,747	-53,102,779
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.2%	-3.4%
Closing fund size	16,246,601	59,737,694	161,932,227	319,742,216	453,481,037	336,019,230
- as % of GNP	11.4%	22.2%	37.0%	46.4%	43.6%	21.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	969,398	941,119	1,469,227	1,925,018	1,832,360	2,539,774
Contributions - voluntary - employer	1,557,965	1,320,996	1,307,517	963,220	387,023	291,130
Contributions - voluntary - self-employed	1,329,898	826,319	1,915,246	3,358,376	4,114,111	6,170,761
Contributions - voluntary - Total	3,857,261	3,088,434	4,691,989	6,246,614	6,333,494	9,001,665
- as % of GNP	2.7%	1.2%	1.1%	0.9%	0.6%	0.6%
- as % of labour force earnings	6.1%	2.7%	2.6%	2.3%	1.6%	1.5%
Contributions - mandatory - employee	168,471	3,155,019	5,400,088	8,896,135	13,222,903	19,562,473
Contributions - mandatory - employer - private	156,431	2,909,975	4,579,422	6,964,074	10,390,759	15,420,340
Contributions - mandatory - employer - public	12,040	245,043	820,665	1,932,060	2,832,144	4,142,133
Contributions - mandatory - self-employed	152,031	2,977,331	4,979,788	7,543,778	10,890,456	16,463,739
Contributions - mandatory - Exchequer	0	0	0	0	0	0
Contributions - mandatory - Total	488,972	9,287,369	15,779,964	25,336,048	37,336,262	55,588,686
- as % of GNP	0.3%	3.5%	3.6%	3.7%	3.6%	3.5%
- as % of labour force earnings	0.8%	8.2%	8.7%	9.3%	9.3%	9.3%

Table 20

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	476,441	487,541	769,884	1,020,832	993,679	1,386,248
Tax relief - voluntary contribs - employer	194,746	165,125	163,440	120,402	48,378	36,391
Tax relief - voluntary contribs - self-employed	527,981	364,518	861,212	1,534,513	1,927,749	2,900,258
Tax relief - voluntary contribs - Total	1,199,168	1,017,184	1,794,536	2,675,748	2,969,806	4,322,897
- as % of GNP	0.8%	0.4%	0.4%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	131,038	2,558,810	4,362,548	6,907,987	10,176,109	15,255,409
- as % of GNP	0.1%	1.0%	1.0%	1.0%	1.0%	1.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,912,415	121,676,877	176,006,120	228,486,510	245,332,726	258,051,914
- as % of GNP	48.3%	45.3%	40.2%	33.1%	23.6%	16.3%
Assets in mandatory schemes (end of year)	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment income on total assets	2,816,956	4,872,048	7,057,928	9,184,873	9,894,502	10,373,462
Tax foregone on investment income	563,391	974,410	1,411,586	1,836,975	1,978,900	2,074,692
- as % of GNP	0.4%	0.4%	0.3%	0.3%	0.2%	0.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,054,184	4,394,758	8,492,698	13,596,048	15,035,960
Pensions in payment - from mandatory schemes	0	0	0	0	0	0
Pensions in payment - Total	1,124,795	2,054,184	4,394,758	8,492,698	13,596,048	15,035,960
Tax revenue from pensions in payment (total)	247,455	451,920	966,847	1,868,394	2,991,131	3,307,911
- as % of GNP	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%

Table 20

Model	Model A - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.5%	4.4%	5.6%	7.4%	9.1%
Pillar 1 tax revenue from increased pensions	0.0%	-0.3%	-0.4%	-0.5%	-0.7%	-0.9%
Pillar 1 cost of unfunded increase in pension	0.1%	1.5%	1.5%	1.3%	0.9%	0.4%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.1%	2.4%	2.5%	2.4%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.2%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	1.3%	1.4%	1.4%	1.3%	1.2%
Pillar 2 - tax foregone on investment income	0.4%	0.4%	0.3%	0.3%	0.2%	0.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Exchequer contribution to mandatory scheme	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	2.5%	5.1%	6.2%	6.0%	5.4%	5.0%

Table 21

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 21

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 21

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,461	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,696,082	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	2.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 21

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,125	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	212,010	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,231,266	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,100,973	130,266,481	207,343,104	291,872,853	334,161,939	376,500,834
- as % of GNP	49.0%	53.0%	54.7%	51.8%	41.7%	32.3%
Assets in mandatory schemes (end of year)	341,100	40,807,592	162,833,871	382,405,368	713,224,582	1,134,817,460
- as % of GNP	0.2%	16.6%	43.0%	67.9%	89.1%	97.4%
Investment income on total assets	2,830,128	7,078,626	16,140,071	30,106,566	47,072,779	67,892,838
Tax foregone on investment income	566,026	1,415,725	3,228,014	6,021,313	9,414,556	13,578,568
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,071,637	4,604,924	9,440,530	16,492,805	19,050,826
Pensions in payment - from mandatory schemes	0	54,094	739,082	3,869,527	14,158,912	30,623,797
Pensions in payment - Total	1,125,648	2,125,732	5,344,006	13,310,057	30,651,717	49,674,624
Tax revenue from pensions in payment (total)	247,643	467,661	1,175,681	2,928,213	6,743,378	10,928,417
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 21

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.5%	6.2%	6.6%	6.8%	7.5%

Table 22

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 22

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 22

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,461	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,696,082	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	2.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 22

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,125	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	212,010	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,231,266	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,276,940	125,503,047	194,799,372	270,595,120	308,628,603	349,250,972
- as % of GNP	49.1%	51.0%	51.4%	48.0%	38.5%	30.0%
Assets in mandatory schemes (end of year)	339,454	39,980,560	156,163,903	359,072,336	658,586,983	1,038,558,059
- as % of GNP	0.2%	16.3%	41.2%	63.7%	82.2%	89.1%
Investment income on total assets	2,506,843	6,061,336	13,620,651	25,062,592	38,746,324	55,590,503
Tax foregone on investment income	501,369	1,212,267	2,724,130	5,012,518	7,749,265	11,118,101
- as % of GNP	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,959,739	4,166,756	8,317,809	14,366,357	16,599,524
Pensions in payment - from mandatory schemes	0	50,202	671,476	3,433,222	12,244,623	26,041,975
Pensions in payment - Total	1,116,734	2,009,942	4,838,232	11,751,031	26,610,980	42,641,499
Tax revenue from pensions in payment (total)	245,682	442,187	1,064,411	2,585,227	5,854,416	9,381,130
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 22

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.4%	6.0%	6.6%	7.1%	7.9%

Table 23

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 23

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 23

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,461	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,696,082	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	2.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	71,240	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 23

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,125	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	212,010	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,231,266	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,959,452	135,245,150	220,843,395	315,299,302	362,556,658	406,834,613
- as % of GNP	48.9%	55.0%	58.3%	56.0%	45.3%	34.9%
Assets in mandatory schemes (end of year)	342,747	41,654,019	169,847,914	407,630,042	773,643,801	1,242,612,983
- as % of GNP	0.2%	16.9%	44.8%	72.4%	96.6%	106.6%
Investment income on total assets	3,151,734	8,157,724	18,902,656	35,776,581	56,606,285	82,116,793
Tax foregone on investment income	630,347	1,631,545	3,780,531	7,155,316	11,321,257	16,423,359
- as % of GNP	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,190,557	5,086,559	10,707,872	18,929,970	21,860,109
Pensions in payment - from mandatory schemes	0	58,190	812,257	4,356,276	16,363,436	36,004,991
Pensions in payment - Total	1,134,787	2,248,747	5,898,816	15,064,148	35,293,406	57,865,100
Tax revenue from pensions in payment (total)	249,653	494,724	1,297,740	3,314,113	7,764,549	12,730,322
- as % of GNP	0.2%	0.2%	0.3%	0.6%	1.0%	1.1%

Table 23

Model	Model B - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-1.0%	-1.1%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.6%	6.3%	6.5%	6.3%	6.9%

Table 24

Model	Model B - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 24

Model	Model B - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 24

Model	Model B - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	966,495	1,013,021	1,596,604	1,982,889	1,883,751	2,648,274
Contributions - voluntary - employer	1,640,972	1,501,996	1,607,302	1,391,060	949,062	1,119,160
Contributions - voluntary - self-employed	1,291,930	1,573,294	2,775,585	3,919,817	4,377,105	6,448,529
Contributions - voluntary - Total	3,899,396	4,088,311	5,979,491	7,293,766	7,209,919	10,215,963
- as % of GNP	2.8%	1.8%	1.7%	1.4%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.1%	4.0%	3.4%	2.4%	2.4%
Contributions - mandatory - employee	67,936	1,167,741	1,651,391	2,332,134	3,269,668	4,505,992
Contributions - mandatory - employer - private	67,936	1,167,741	1,651,391	2,332,134	3,269,668	4,505,992
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	69,822	1,296,722	1,974,178	2,787,444	3,742,330	5,261,655
Contributions - mandatory - Exchequer	102,847	1,816,102	2,638,480	3,725,856	5,140,832	7,136,820
Contributions - mandatory - Total	308,541	5,448,306	7,915,439	11,177,567	15,422,497	21,410,459
- as % of GNP	0.2%	2.4%	2.3%	2.2%	2.2%	2.1%
- as % of labour force earnings	0.5%	5.4%	5.3%	5.2%	5.2%	5.1%

Table 24

Model	Model B - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	471,920	507,801	817,247	1,031,777	1,017,276	1,445,695
Tax relief - voluntary contribs - employer	205,122	187,749	200,913	173,882	118,633	139,895
Tax relief - voluntary contribs - self-employed	511,760	647,116	1,190,151	1,732,997	2,036,951	3,030,809
Tax relief - voluntary contribs - Total	1,188,801	1,342,666	2,208,310	2,938,656	3,172,860	4,616,398
- as % of GNP	0.9%	0.6%	0.6%	0.6%	0.4%	0.5%
Tax relief - mandatory contributions - Total	8,492	145,968	206,424	291,517	408,708	563,249
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,953,998	127,408,162	197,647,930	268,238,390	295,743,704	323,108,424
- as % of GNP	49.9%	55.4%	56.8%	53.2%	41.9%	32.0%
Assets in mandatory schemes (end of year)	324,988	36,833,597	143,507,575	330,428,716	604,663,956	951,491,213
- as % of GNP	0.2%	16.0%	41.3%	65.5%	85.6%	94.4%
Investment income on total assets	2,826,490	6,787,546	14,827,241	26,644,655	40,398,458	57,260,844
Tax foregone on investment income	565,298	1,357,509	2,965,448	5,328,931	8,079,692	11,452,169
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,069,770	4,556,904	9,142,565	15,241,547	16,938,418
Pensions in payment - from mandatory schemes	0	52,966	716,320	3,646,389	12,414,531	25,811,625
Pensions in payment - Total	1,126,893	2,122,735	5,273,224	12,788,954	27,656,078	42,750,043
Tax revenue from pensions in payment (total)	247,916	467,002	1,160,109	2,813,570	6,084,337	9,405,009
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	0.9%

Table 24

Model	Model B - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.7%	0.7%	0.7%
	2.6%	4.8%	6.7%	6.9%	7.1%	8.2%

Table 25

Model	Model B - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477
GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 25

Model	Model B - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 25

Model	Model B - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,019,213	1,144,323	2,016,572	2,901,498	3,236,773	4,803,730
Contributions - voluntary - employer	1,731,733	1,684,760	1,961,755	1,900,377	1,565,608	2,101,718
Contributions - voluntary - self-employed	1,378,539	1,840,833	3,670,607	5,967,436	7,588,155	11,707,370
Contributions - voluntary - Total	4,129,485	4,669,917	7,648,935	10,769,310	12,390,536	18,612,818
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.2%	1.2%
- as % of labour force earnings	6.6%	3.8%	3.8%	3.5%	2.7%	2.6%
Contributions - mandatory - employee	73,393	1,524,999	2,420,550	3,745,471	5,765,295	8,756,994
Contributions - mandatory - employer - private	73,393	1,524,999	2,420,550	3,745,471	5,765,295	8,756,994
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	75,745	1,673,089	2,850,616	4,397,275	6,532,759	10,127,966
Contributions - mandatory - Exchequer	111,265	2,361,543	3,845,858	5,944,109	9,031,674	13,820,977
Contributions - mandatory - Total	333,795	7,084,629	11,537,573	17,832,326	27,095,023	41,462,931
- as % of GNP	0.2%	2.6%	2.6%	2.5%	2.6%	2.6%
- as % of labour force earnings	0.5%	5.7%	5.8%	5.8%	5.8%	5.9%

Table 25

Model	Model B - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,974	576,332	1,041,423	1,526,396	1,754,103	2,622,469
Tax relief - voluntary contribs - employer	216,467	210,595	245,219	237,547	195,701	262,715
Tax relief - voluntary contribs - self-employed	545,332	766,269	1,600,378	2,681,625	3,543,746	5,502,464
Tax relief - voluntary contribs - Total	1,258,772	1,553,197	2,887,021	4,445,569	5,493,550	8,387,648
- as % of GNP	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	9,174	190,625	302,569	468,184	720,662	1,094,624
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,196,384	132,721,851	217,824,817	323,639,500	403,101,948	497,282,221
- as % of GNP	48.5%	48.9%	49.2%	46.2%	38.0%	30.8%
Assets in mandatory schemes (end of year)	351,592	45,362,000	191,494,208	472,152,402	929,535,641	1,563,186,801
- as % of GNP	0.2%	16.7%	43.2%	67.5%	87.7%	96.7%
Investment income on total assets	2,832,492	7,376,426	17,920,355	35,705,966	60,182,739	92,788,947
Tax foregone on investment income	566,498	1,475,285	3,584,071	7,141,193	12,036,548	18,557,789
- as % of GNP	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,066,791	4,645,536	9,744,168	17,943,646	22,592,182
Pensions in payment - from mandatory schemes	0	55,239	766,051	4,129,746	16,194,746	38,924,881
Pensions in payment - Total	1,124,795	2,122,030	5,411,586	13,873,915	34,138,392	61,517,063
Tax revenue from pensions in payment (total)	247,455	466,847	1,190,549	3,052,261	7,510,446	13,533,754
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.8%

Table 25

Model	Model B - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.7%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.9%	0.9%	0.8%	0.9%	0.9%
	2.5%	4.0%	5.5%	5.5%	5.5%	5.8%

Table 26

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 26

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 26

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	558,380	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,253,572	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	816,145	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	2,628,098	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	1.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	4.3%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	734,114	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	1,079,452	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	3,238,357	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	2.3%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	5.3%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 26

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	272,279	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	156,697	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	317,016	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	745,992	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.5%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	89,049	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,629,243	119,325,630	193,543,960	277,405,656	323,427,376	370,250,891
- as % of GNP	48.0%	48.5%	51.1%	49.2%	40.4%	31.8%
Assets in mandatory schemes (end of year)	3,411,004	67,046,484	201,629,411	432,963,190	763,958,048	1,168,707,052
- as % of GNP	2.4%	27.3%	53.2%	76.9%	95.4%	100.3%
Investment income on total assets	2,880,537	7,944,378	17,476,092	31,904,030	48,827,174	69,031,944
Tax foregone on investment income	576,107	1,588,876	3,495,218	6,380,806	9,765,435	13,806,389
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,018,702	4,398,728	8,932,757	15,665,496	18,351,118
Pensions in payment - from mandatory schemes	0	143,878	1,202,184	5,211,727	17,242,839	33,998,021
Pensions in payment - Total	1,125,648	2,162,580	5,600,912	14,144,483	32,908,335	52,349,139
Tax revenue from pensions in payment (total)	247,643	475,768	1,232,201	3,111,786	7,239,834	11,516,811
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	1.0%

Table 26

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.6%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-1.0%
Exchequer contribution to mandatory scheme	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.9%	4.5%	6.2%	6.5%	6.7%	7.4%

Table 27

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 27

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 27

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	558,380	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,253,572	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	816,145	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	2,628,098	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	1.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	4.3%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	734,114	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	1,079,452	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	3,238,357	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	2.3%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	5.3%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 27

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	272,279	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	156,697	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	317,016	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	745,992	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.5%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	89,049	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,812,313	114,978,251	182,106,083	257,818,030	299,427,258	344,036,386
- as % of GNP	48.1%	46.7%	48.0%	45.8%	37.4%	29.5%
Assets in mandatory schemes (end of year)	3,394,541	65,212,933	191,799,926	403,532,316	701,601,297	1,066,554,850
- as % of GNP	2.4%	26.5%	50.6%	71.6%	87.6%	91.5%
Investment income on total assets	2,552,929	6,822,320	14,734,708	26,483,948	40,059,469	56,413,071
Tax foregone on investment income	510,586	1,364,464	2,946,942	5,296,790	8,011,894	11,282,614
- as % of GNP	0.4%	0.6%	0.8%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,911,029	3,983,047	7,881,998	13,678,870	16,026,005
Pensions in payment - from mandatory schemes	0	132,911	1,084,101	4,582,810	14,777,587	28,759,322
Pensions in payment - Total	1,116,734	2,043,940	5,067,148	12,464,809	28,456,457	44,785,327
Tax revenue from pensions in payment (total)	245,682	449,667	1,114,773	2,742,258	6,260,420	9,852,772
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.8%

Table 27

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.6%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.8%
Exchequer contribution to mandatory scheme	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.9%	4.5%	6.1%	6.6%	7.0%	7.9%

Table 28

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 28

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 28

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	558,380	1,077,173	1,778,345	2,319,840	2,263,890	3,242,312
Contributions - voluntary - employer	1,253,572	1,596,640	1,765,142	1,583,077	1,130,063	1,392,691
Contributions - voluntary - self-employed	816,145	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	2,628,098	4,374,180	6,692,221	8,546,289	8,663,771	12,533,106
- as % of GNP	1.9%	1.8%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	4.3%	4.0%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - private	712,395	1,319,285	1,919,018	2,777,142	3,981,969	5,655,340
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	734,114	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	1,079,452	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	3,238,357	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	2.3%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	5.3%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 28

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	272,279	540,876	913,323	1,211,537	1,223,780	1,770,014
Tax relief - voluntary contribs - employer	156,697	199,580	220,643	197,885	141,258	174,086
Tax relief - voluntary contribs - self-employed	317,016	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	745,992	1,443,134	2,492,864	3,473,753	3,819,932	5,656,210
- as % of GNP	0.5%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	89,049	164,911	239,877	347,143	497,746	706,917
- as % of GNP	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,480,619	123,872,772	205,846,368	298,925,797	350,043,073	399,351,053
- as % of GNP	47.9%	50.4%	54.3%	53.1%	43.7%	34.3%
Assets in mandatory schemes (end of year)	3,427,466	68,937,350	212,070,653	465,095,081	833,437,276	1,283,588,790
- as % of GNP	2.4%	28.0%	55.9%	82.6%	104.1%	110.1%
Investment income on total assets	3,206,506	9,135,010	20,490,408	38,025,372	58,916,980	83,667,758
Tax foregone on investment income	641,301	1,827,002	4,098,082	7,605,074	11,783,396	16,733,552
- as % of GNP	0.5%	0.7%	1.1%	1.4%	1.5%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,133,139	4,855,500	10,117,071	17,935,746	21,007,984
Pensions in payment - from mandatory schemes	0	155,491	1,331,219	5,921,301	20,113,016	40,187,568
Pensions in payment - Total	1,134,787	2,288,629	6,186,719	16,038,372	38,048,762	61,195,553
Tax revenue from pensions in payment (total)	249,653	503,498	1,361,078	3,528,442	8,370,728	13,463,022
- as % of GNP	0.2%	0.2%	0.4%	0.6%	1.0%	1.2%

Table 28

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.6%	0.7%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.5%	0.7%	1.1%	1.4%	1.5%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.4%	-0.6%	-1.0%	-1.2%
Exchequer contribution to mandatory scheme	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
	3.0%	4.6%	6.3%	6.6%	6.4%	6.8%

Table 29

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78
Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478
GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 29

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 29

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	542,732	1,013,021	1,596,604	1,982,889	1,883,751	2,648,274
Contributions - voluntary - employer	1,214,911	1,501,996	1,607,302	1,391,060	949,062	1,119,160
Contributions - voluntary - self-employed	787,111	1,573,294	2,775,585	3,919,817	4,377,105	6,448,529
Contributions - voluntary - Total	2,544,754	4,088,311	5,979,491	7,293,766	7,209,919	10,215,963
- as % of GNP	1.8%	1.8%	1.7%	1.4%	1.0%	1.0%
- as % of labour force earnings	4.3%	4.1%	4.0%	3.4%	2.4%	2.4%
Contributions - mandatory - employee	679,362	1,167,741	1,651,391	2,332,134	3,269,668	4,505,992
Contributions - mandatory - employer - private	679,362	1,167,741	1,651,391	2,332,134	3,269,668	4,505,992
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	698,217	1,296,722	1,974,178	2,787,444	3,742,330	5,261,655
Contributions - mandatory - Exchequer	1,028,470	1,816,102	2,638,480	3,725,856	5,140,832	7,136,820
Contributions - mandatory - Total	3,085,411	5,448,306	7,915,439	11,177,567	15,422,497	21,410,459
- as % of GNP	2.2%	2.4%	2.3%	2.2%	2.2%	2.1%
- as % of labour force earnings	5.2%	5.4%	5.3%	5.2%	5.2%	5.1%

Table 29

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	264,997	507,801	817,247	1,031,777	1,017,276	1,445,695
Tax relief - voluntary contribs - employer	151,864	187,749	200,913	173,882	118,633	139,895
Tax relief - voluntary contribs - self-employed	306,150	647,116	1,190,151	1,732,997	2,036,951	3,030,809
Tax relief - voluntary contribs - Total	723,011	1,342,666	2,208,310	2,938,656	3,172,860	4,616,398
- as % of GNP	0.5%	0.6%	0.6%	0.6%	0.4%	0.5%
Tax relief - mandatory contributions - Total	84,920	145,968	206,424	291,517	408,708	563,249
- as % of GNP	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,540,914	117,055,235	184,661,031	254,742,835	285,802,176	317,360,490
- as % of GNP	48.8%	50.9%	53.1%	50.5%	40.5%	31.5%
Assets in mandatory schemes (end of year)	3,249,879	61,179,323	179,307,380	376,548,901	650,196,425	981,620,750
- as % of GNP	2.4%	26.6%	51.6%	74.7%	92.1%	97.3%
Investment income on total assets	2,874,283	7,582,097	16,046,879	28,265,442	41,956,304	58,266,195
Tax foregone on investment income	574,857	1,516,419	3,209,376	5,653,088	8,391,261	11,653,239
- as % of GNP	0.4%	0.7%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,017,572	4,355,447	8,654,823	14,466,217	16,290,315
Pensions in payment - from mandatory schemes	0	141,182	1,168,434	4,932,636	15,244,948	28,840,107
Pensions in payment - Total	1,126,893	2,158,753	5,523,880	13,587,459	29,711,165	45,130,423
Tax revenue from pensions in payment (total)	247,916	474,926	1,215,254	2,989,241	6,536,456	9,928,693
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	1.0%

Table 29

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.6%	0.6%	0.7%	0.6%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-1.0%
Exchequer contribution to mandatory scheme	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%
	2.9%	4.9%	6.7%	6.9%	7.2%	8.2%

Table 30

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477

GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 30

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 30

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	568,592	1,144,323	2,016,572	2,901,498	3,236,773	4,803,730
Contributions - voluntary - employer	1,278,598	1,684,760	1,961,755	1,900,377	1,565,608	2,101,718
Contributions - voluntary - self-employed	835,103	1,840,833	3,670,607	5,967,436	7,588,155	11,707,370
Contributions - voluntary - Total	2,682,293	4,669,917	7,648,935	10,769,310	12,390,536	18,612,818
- as % of GNP	1.9%	1.7%	1.7%	1.5%	1.2%	1.2%
- as % of labour force earnings	4.3%	3.8%	3.8%	3.5%	2.7%	2.6%
Contributions - mandatory - employee	733,926	1,524,999	2,420,550	3,745,471	5,765,295	8,756,994
Contributions - mandatory - employer - private	733,926	1,524,999	2,420,550	3,745,471	5,765,295	8,756,994
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	757,447	1,673,089	2,850,616	4,397,275	6,532,759	10,127,966
Contributions - mandatory - Exchequer	1,112,649	2,361,543	3,845,858	5,944,109	9,031,674	13,820,977
Contributions - mandatory - Total	3,337,948	7,084,629	11,537,573	17,832,326	27,095,023	41,462,931
- as % of GNP	2.3%	2.6%	2.6%	2.5%	2.6%	2.6%
- as % of labour force earnings	5.3%	5.7%	5.8%	5.8%	5.8%	5.9%

Table 30

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	277,019	576,332	1,041,423	1,526,396	1,754,103	2,622,469
Tax relief - voluntary contribs - employer	159,825	210,595	245,219	237,547	195,701	262,715
Tax relief - voluntary contribs - self-employed	324,085	766,269	1,600,378	2,681,625	3,543,746	5,502,464
Tax relief - voluntary contribs - Total	760,928	1,553,197	2,887,021	4,445,569	5,493,550	8,387,648
- as % of GNP	0.5%	0.6%	0.7%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	91,741	190,625	302,569	468,184	720,662	1,094,624
- as % of GNP	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	67,686,757	121,325,598	203,394,671	308,415,085	391,739,664	490,631,067
- as % of GNP	47.4%	44.7%	45.9%	44.1%	37.0%	30.4%
Assets in mandatory schemes (end of year)	3,515,919	73,265,218	232,927,868	526,646,116	985,039,766	1,600,670,998
- as % of GNP	2.5%	27.0%	52.6%	75.2%	92.9%	99.0%
Investment income on total assets	2,884,610	8,307,256	19,362,316	37,664,891	62,124,856	94,059,224
Tax foregone on investment income	576,922	1,661,451	3,872,463	7,532,978	12,424,971	18,811,845
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,013,603	4,436,179	9,221,594	17,076,682	21,852,011
Pensions in payment - from mandatory schemes	0	146,332	1,238,369	5,517,416	19,485,700	42,616,964
Pensions in payment - Total	1,124,795	2,159,935	5,674,548	14,739,010	36,562,382	64,468,975
Tax revenue from pensions in payment (total)	247,455	475,186	1,248,401	3,242,582	8,043,724	14,183,175
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 30

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.6%	0.6%	0.7%	0.7%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.8%	0.9%	0.9%	0.8%	0.9%	0.9%
	2.9%	4.1%	5.6%	5.5%	5.5%	5.8%

Table 31

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625
GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 31

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 31

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,625,810	-5,094,179	-21,804,903	-40,795,379
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,119,288	152,956,756	284,069,554	369,238,593	258,141,512
- as % of GNP	11.5%	23.7%	40.5%	50.6%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,460	1,034,071	1,707,632	2,223,557	2,151,783	3,079,860
Contributions - voluntary - employer	1,696,075	1,538,867	1,696,674	1,513,484	1,062,487	1,303,196
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,203,135	6,422,942	8,181,075	8,220,422	11,885,225
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	3.9%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - private	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 31

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,124	517,835	875,399	1,159,696	1,162,788	1,681,325
Tax relief - voluntary contribs - employer	212,009	192,358	212,084	189,185	132,811	162,900
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,231,267	1,380,802	2,386,518	3,320,893	3,626,888	5,370,244
- as % of GNP	0.9%	0.6%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	158,305	230,027	332,376	476,322	676,513
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,100,970	129,248,891	203,522,391	283,951,784	321,994,867	359,361,348
- as % of GNP	49.0%	52.7%	53.8%	50.6%	40.3%	30.9%
Assets in mandatory schemes (end of year)	341,100	39,742,191	157,362,792	368,744,294	686,669,021	1,091,027,298
- as % of GNP	0.2%	16.2%	41.6%	65.7%	86.0%	93.9%
Investment income on total assets	2,830,128	6,993,588	15,727,592	29,134,806	45,328,899	65,161,324
Tax foregone on investment income	566,026	1,398,718	3,145,518	5,826,961	9,065,780	13,032,265
- as % of GNP	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,073,484	4,563,771	9,279,473	16,089,461	18,423,757
Pensions in payment - from mandatory schemes	0	53,101	717,604	3,745,892	13,696,055	29,553,658
Pensions in payment - Total	1,125,648	2,126,585	5,281,374	13,025,364	29,785,517	47,977,415
Tax revenue from pensions in payment (total)	247,643	467,849	1,161,902	2,865,580	6,552,814	10,555,031
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 31

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.4%	6.1%	6.5%	6.8%	7.3%

Table 32

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625

GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 32

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 32

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,750,931	-3,932,657	-18,574,296	-35,111,074
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,756,831	142,568,111	259,138,085	330,551,650	227,071,681
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.4%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,460	1,034,071	1,707,632	2,223,557	2,151,783	3,079,860
Contributions - voluntary - employer	1,696,075	1,538,867	1,696,674	1,513,484	1,062,487	1,303,196
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,203,135	6,422,942	8,181,075	8,220,422	11,885,225
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	3.9%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - private	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 32

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,124	517,835	875,399	1,159,696	1,162,788	1,681,325
Tax relief - voluntary contribs - employer	212,009	192,358	212,084	189,185	132,811	162,900
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,231,267	1,380,802	2,386,518	3,320,893	3,626,888	5,370,244
- as % of GNP	0.9%	0.6%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	158,305	230,027	332,376	476,322	676,513
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,276,938	124,507,108	191,117,091	263,069,391	297,177,529	333,178,995
- as % of GNP	49.1%	50.8%	50.6%	46.8%	37.2%	28.7%
Assets in mandatory schemes (end of year)	339,454	38,931,770	150,892,213	346,189,994	633,994,400	998,469,182
- as % of GNP	0.2%	15.9%	39.9%	61.6%	79.4%	85.9%
Investment income on total assets	2,506,843	5,986,907	13,265,772	24,242,646	37,299,315	53,346,833
Tax foregone on investment income	501,369	1,197,381	2,653,154	4,848,529	7,459,863	10,669,367
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,961,370	4,129,352	8,173,288	14,008,605	16,046,828
Pensions in payment - from mandatory schemes	0	49,276	651,847	3,322,828	11,841,744	25,129,556
Pensions in payment - Total	1,116,734	2,010,646	4,781,199	11,496,116	25,850,349	41,176,383
Tax revenue from pensions in payment (total)	245,682	442,342	1,051,864	2,529,145	5,687,077	9,058,804
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 32

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.3%	6.0%	6.6%	7.1%	7.7%

Table 33

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625

GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 33

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 33

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,480,620	-6,442,014	-25,553,711	-47,391,467
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,590,929	164,223,988	311,645,714	412,699,989	293,515,513
- as % of GNP	11.6%	24.7%	43.5%	55.5%	51.7%	25.3%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	998,460	1,034,071	1,707,632	2,223,557	2,151,783	3,079,860
Contributions - voluntary - employer	1,696,075	1,538,867	1,696,674	1,513,484	1,062,487	1,303,196
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,203,135	6,422,942	8,181,075	8,220,422	11,885,225
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	3.9%	4.0%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - private	71,239	1,266,438	1,840,216	2,659,010	3,810,580	5,412,105
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 33

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	487,124	517,835	875,399	1,159,696	1,162,788	1,681,325
Tax relief - voluntary contribs - employer	212,009	192,358	212,084	189,185	132,811	162,900
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,231,267	1,380,802	2,386,518	3,320,893	3,626,888	5,370,244
- as % of GNP	0.9%	0.6%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	8,905	158,305	230,027	332,376	476,322	676,513
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,959,450	134,205,274	216,877,847	306,956,724	349,616,430	388,534,397
- as % of GNP	48.9%	54.7%	57.4%	54.7%	43.8%	33.4%
Assets in mandatory schemes (end of year)	342,747	40,571,722	164,168,526	393,131,974	744,925,815	1,194,679,556
- as % of GNP	0.2%	16.5%	43.4%	70.0%	93.3%	102.8%
Investment income on total assets	3,151,734	8,061,710	18,428,704	34,637,615	54,526,796	78,824,655
Tax foregone on investment income	630,347	1,612,342	3,685,741	6,927,523	10,905,359	15,764,931
- as % of GNP	0.4%	0.7%	1.0%	1.2%	1.4%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,192,638	5,041,354	10,528,648	18,475,703	21,149,302
Pensions in payment - from mandatory schemes	0	57,126	788,793	4,217,987	15,832,036	34,750,027
Pensions in payment - Total	1,134,787	2,249,764	5,830,147	14,746,634	34,307,739	55,899,329
Tax revenue from pensions in payment (total)	249,653	494,948	1,282,632	3,244,260	7,547,703	12,297,852
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	1.1%

Table 33

Model	Model B - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.7%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	1.0%	1.2%	1.4%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-1.1%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.5%	6.3%	6.4%	6.5%	6.8%

Table 34

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,915,199	1,903,811	1,841,556	1,713,402	1,633,968
- DB members (private sector)	221,725	179,374	116,117	56,607	9,511	672
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,454	204,281	176,308	130,933	73,362	63,752
- RAC/PRSA holders	258,444	249,676	215,488	160,029	89,664	77,919
- Others	883,636	1,009,360	1,123,391	1,221,478	1,268,357	1,219,117
Total labour force earnings (18-65)	59,180,771	97,387,159	144,079,641	205,660,871	287,621,689	407,638,446

GNP						
Real GNP	132,117,095	179,817,472	222,901,381	265,121,997	304,753,745	356,922,044
Nominal GNP	138,264,239	229,395,270	346,630,718	502,576,025	704,217,436	1,005,385,949

Table 34

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.3%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 34

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,293,953	2,207,933	-6,004,066	-20,812,733	-34,660,883
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,733,391	146,933,644	262,286,685	322,062,077	219,324,172
- as % of GNP	11.7%	24.7%	42.4%	52.2%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	966,493	972,808	1,533,613	1,900,511	1,789,006	2,513,622
Contributions - voluntary - employer	1,640,965	1,448,119	1,545,806	1,330,575	892,037	1,046,346
Contributions - voluntary - self-employed	1,291,936	1,508,849	2,661,608	3,750,813	4,154,440	6,120,447
Contributions - voluntary - Total	3,899,394	3,929,775	5,741,027	6,981,899	6,835,482	9,680,415
- as % of GNP	2.8%	1.7%	1.7%	1.4%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.0%	4.0%	3.4%	2.4%	2.4%
Contributions - mandatory - employee	67,936	1,120,810	1,582,811	2,231,711	3,126,982	4,308,494
Contributions - mandatory - employer - private	67,936	1,120,810	1,582,811	2,231,711	3,126,982	4,308,494
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	69,822	1,249,788	1,906,461	2,694,549	3,622,328	5,093,279
Contributions - mandatory - Exchequer	102,847	1,745,704	2,536,042	3,578,986	4,938,146	6,855,134
Contributions - mandatory - Total	308,541	5,237,113	7,608,125	10,736,957	14,814,438	20,565,402
- as % of GNP	0.2%	2.3%	2.2%	2.1%	2.1%	2.0%
- as % of labour force earnings	0.5%	5.4%	5.3%	5.2%	5.2%	5.0%

Table 34

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	471,919	486,322	783,507	987,475	965,746	1,372,184
Tax relief - voluntary contribs - employer	205,121	181,015	193,226	166,322	111,505	130,793
Tax relief - voluntary contribs - self-employed	511,762	617,706	1,137,802	1,654,844	1,932,599	2,876,610
Tax relief - voluntary contribs - Total	1,188,802	1,285,043	2,114,534	2,808,641	3,009,850	4,379,587
- as % of GNP	0.9%	0.6%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	8,492	140,101	197,851	278,964	390,873	538,562
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,953,996	126,451,491	194,168,513	261,256,558	285,254,268	308,513,886
- as % of GNP	49.9%	55.1%	56.0%	52.0%	40.5%	30.7%
Assets in mandatory schemes (end of year)	324,988	35,872,738	138,657,073	318,511,368	581,889,668	914,291,926
- as % of GNP	0.2%	15.6%	40.0%	63.4%	82.6%	90.9%
Investment income on total assets	2,826,490	6,709,307	14,457,889	25,794,697	38,901,231	54,938,173
Tax foregone on investment income	565,298	1,341,861	2,891,578	5,158,939	7,780,246	10,987,635
- as % of GNP	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,071,732	4,517,184	8,991,560	14,883,900	16,396,784
Pensions in payment - from mandatory schemes	0	51,990	695,429	3,529,141	12,004,766	24,897,818
Pensions in payment - Total	1,126,893	2,123,722	5,212,613	12,520,701	26,888,666	41,294,602
Tax revenue from pensions in payment (total)	247,916	467,219	1,146,775	2,754,554	5,915,507	9,084,812
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 34

Model	Model B - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.6%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.7%	0.7%	0.7%	0.7%
	2.6%	4.9%	6.5%	6.9%	7.3%	8.3%

Table 35

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,353,037	2,531,196	2,672,246	2,698,590	2,746,241
- DB members (private sector)	233,448	196,168	132,344	68,646	13,371	933
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,719	234,411	219,645	179,656	121,685	121,602
- RAC/PRSA holders	278,323	286,502	268,455	219,579	148,726	148,624
- Others	967,476	1,363,449	1,638,244	1,931,859	2,142,300	2,202,574
Total labour force earnings (18-65)	62,909,122	119,352,522	193,363,172	298,330,256	449,181,932	683,294,244

GNP						
Real GNP	136,460,812	211,987,663	284,031,806	368,093,827	457,264,547	572,156,908
Nominal GNP	142,810,060	270,435,162	441,693,759	697,773,609	1,056,635,635	1,611,664,301

Table 35

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 35

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,704,352	3,410,133	-3,311,512	-22,545,688	-53,524,634
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,848,046	162,553,291	321,510,216	456,687,212	338,688,603
- as % of GNP	11.4%	22.1%	36.8%	46.1%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,019,212	1,097,750	1,934,648	2,779,222	3,080,305	4,568,199
Contributions - voluntary - employer	1,731,725	1,622,907	1,883,347	1,813,678	1,472,144	1,968,716
Contributions - voluntary - self-employed	1,378,545	1,763,297	3,515,645	5,708,390	7,218,508	11,133,111
Contributions - voluntary - Total	4,129,483	4,483,954	7,333,639	10,301,290	11,770,957	17,670,027
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	3.8%	3.8%	3.5%	2.6%	2.6%
Contributions - mandatory - employee	73,392	1,463,776	2,322,077	3,588,932	5,521,901	8,389,671
Contributions - mandatory - employer - private	73,392	1,463,776	2,322,077	3,588,932	5,521,901	8,389,671
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	75,745	1,614,540	2,758,070	4,258,498	6,332,514	9,822,057
Contributions - mandatory - Exchequer	111,265	2,271,046	3,701,112	5,718,181	8,688,158	13,300,699
Contributions - mandatory - Total	333,795	6,813,138	11,103,336	17,154,543	26,064,473	39,902,098
- as % of GNP	0.2%	2.5%	2.5%	2.5%	2.5%	2.5%
- as % of labour force earnings	0.5%	5.7%	5.7%	5.8%	5.8%	5.8%

Table 35

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,973	551,403	997,396	1,460,396	1,668,906	2,493,881
Tax relief - voluntary contribs - employer	216,466	202,863	235,418	226,710	184,018	246,090
Tax relief - voluntary contribs - self-employed	545,334	730,750	1,528,855	2,561,285	3,370,331	5,232,562
Tax relief - voluntary contribs - Total	1,258,773	1,485,017	2,761,669	4,248,391	5,223,255	7,972,533
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	9,174	182,972	290,260	448,617	690,238	1,048,709
- as % of GNP	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,196,382	131,640,581	213,565,802	314,265,827	387,645,460	474,173,797
- as % of GNP	48.5%	48.7%	48.4%	45.0%	36.7%	29.4%
Assets in mandatory schemes (end of year)	351,592	44,166,650	185,044,702	455,367,799	895,294,649	1,503,878,223
- as % of GNP	0.2%	16.3%	41.9%	65.3%	84.7%	93.3%
Investment income on total assets	2,832,492	7,283,501	17,444,195	34,525,782	57,938,994	89,089,318
Tax foregone on investment income	566,498	1,456,700	3,488,839	6,905,156	11,587,799	17,817,864
- as % of GNP	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,068,526	4,602,722	9,571,753	17,481,909	21,809,782
Pensions in payment - from mandatory schemes	0	54,225	743,830	3,998,384	15,668,712	37,579,197
Pensions in payment - Total	1,124,795	2,122,751	5,346,552	13,570,138	33,150,621	59,388,979
Tax revenue from pensions in payment (total)	247,455	467,005	1,176,241	2,985,430	7,293,137	13,065,575
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.8%

Table 35

Model	Model B - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.6%	0.7%	0.7%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	3.9%	5.4%	5.6%	5.5%	5.8%

Table 36

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 36

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 36

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 36

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,100,973	130,998,970	210,438,306	297,545,847	341,943,352	386,294,013
- as % of GNP	49.0%	53.3%	55.5%	52.8%	42.7%	33.1%
Assets in mandatory schemes (end of year)	341,100	40,807,592	162,833,871	382,405,368	713,224,582	1,134,817,460
- as % of GNP	0.2%	16.6%	43.0%	67.9%	89.1%	97.4%
Investment income on total assets	2,830,128	7,104,071	16,262,236	30,333,622	47,386,071	68,286,876
Tax foregone on investment income	566,026	1,420,814	3,252,447	6,066,724	9,477,214	13,657,375
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,071,740	4,612,116	9,488,467	16,691,912	19,357,768
Pensions in payment - from mandatory schemes	0	54,094	739,082	3,869,527	14,158,912	30,623,797
Pensions in payment - Total	1,125,648	2,125,834	5,351,198	13,357,994	30,850,824	49,981,565
Tax revenue from pensions in payment (total)	247,643	467,684	1,177,264	2,938,759	6,787,181	10,995,944
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 36

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.3%	6.1%	6.5%	6.7%	7.4%

Table 37

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 37

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 37

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 37

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,276,940	126,226,798	197,775,143	275,892,439	315,755,080	358,142,445
- as % of GNP	49.1%	51.3%	52.2%	49.0%	39.4%	30.7%
Assets in mandatory schemes (end of year)	339,454	39,980,560	156,163,903	359,072,336	658,586,983	1,038,558,059
- as % of GNP	0.2%	16.3%	41.2%	63.7%	82.2%	89.1%
Investment income on total assets	2,506,843	6,083,421	13,723,883	25,248,872	38,998,092	55,904,376
Tax foregone on investment income	501,369	1,216,684	2,744,777	5,049,774	7,799,618	11,180,875
- as % of GNP	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,959,836	4,173,363	8,360,469	14,537,246	16,858,346
Pensions in payment - from mandatory schemes	0	50,202	671,476	3,433,222	12,244,623	26,041,975
Pensions in payment - Total	1,116,734	2,010,038	4,844,839	11,793,691	26,781,868	42,900,321
Tax revenue from pensions in payment (total)	245,682	442,208	1,065,865	2,594,612	5,892,011	9,438,071
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 37

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.2%	5.9%	6.5%	7.0%	7.8%

Table 38

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 38

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 38

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 38

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,959,452	135,986,472	224,063,311	321,378,523	371,063,864	417,638,917
- as % of GNP	48.9%	55.3%	59.1%	57.1%	46.3%	35.8%
Assets in mandatory schemes (end of year)	342,747	41,654,019	169,847,914	407,630,042	773,643,801	1,242,612,983
- as % of GNP	0.2%	16.9%	44.8%	72.4%	96.6%	106.6%
Investment income on total assets	3,151,734	8,186,600	19,045,084	36,049,348	56,990,704	82,604,791
Tax foregone on investment income	630,347	1,637,320	3,809,017	7,209,870	11,398,141	16,520,958
- as % of GNP	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,190,666	5,094,374	10,761,674	19,161,746	22,223,744
Pensions in payment - from mandatory schemes	0	58,190	812,257	4,356,276	16,363,436	36,004,991
Pensions in payment - Total	1,134,787	2,248,856	5,906,631	15,117,950	35,525,182	58,228,735
Tax revenue from pensions in payment (total)	249,653	494,748	1,299,459	3,325,949	7,815,540	12,810,322
- as % of GNP	0.2%	0.2%	0.3%	0.6%	1.0%	1.1%

Table 38

Model	Model C - immediate
Immigration	Central (NPR)
Investment ret,	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-1.0%	-1.1%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.4%	6.2%	6.4%	6.2%	6.8%

Table 39

Model	Model C - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 39

Model	Model C - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 39

Model	Model C - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	919,155	473,850	834,270	1,139,308	1,058,551	1,513,946
Contributions - voluntary - employer	1,688,312	2,222,106	2,496,156	2,353,104	1,895,644	2,397,033
Contributions - voluntary - self-employed	1,291,930	1,573,294	2,775,585	3,919,817	4,377,105	6,448,529
Contributions - voluntary - Total	3,899,396	4,269,250	6,106,012	7,412,229	7,331,300	10,359,508
- as % of GNP	2.8%	1.9%	1.8%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.2%	4.1%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	135,872	2,335,482	3,302,782	4,664,267	6,539,335	9,011,984
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	69,822	1,296,722	1,974,178	2,787,444	3,742,330	5,261,655
Contributions - mandatory - Exchequer	102,847	1,816,102	2,638,480	3,725,856	5,140,832	7,136,820
Contributions - mandatory - Total	308,541	5,448,306	7,915,439	11,177,567	15,422,497	21,410,459
- as % of GNP	0.2%	2.4%	2.3%	2.2%	2.2%	2.1%
- as % of labour force earnings	0.5%	5.4%	5.3%	5.2%	5.2%	5.1%

Table 39

Model	Model C - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	448,786	237,072	428,466	595,013	570,339	826,583
Tax relief - voluntary contribs - employer	211,039	277,763	312,020	294,138	236,956	299,629
Tax relief - voluntary contribs - self-employed	511,760	647,116	1,190,151	1,732,997	2,036,951	3,030,809
Tax relief - voluntary contribs - Total	1,171,585	1,161,952	1,930,636	2,622,148	2,844,245	4,157,021
- as % of GNP	0.8%	0.5%	0.6%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,953,998	128,077,987	200,444,993	273,321,095	302,585,265	331,530,552
- as % of GNP	49.9%	55.7%	57.7%	54.2%	42.8%	32.9%
Assets in mandatory schemes (end of year)	324,988	36,833,597	143,507,575	330,428,716	604,663,956	951,491,213
- as % of GNP	0.2%	16.0%	41.3%	65.5%	85.6%	94.4%
Investment income on total assets	2,826,490	6,810,841	14,937,662	26,848,177	40,674,122	57,599,987
Tax foregone on investment income	565,298	1,362,168	2,987,532	5,369,635	8,134,824	11,519,997
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,069,871	4,563,964	9,188,527	15,422,910	17,212,146
Pensions in payment - from mandatory schemes	0	52,966	716,320	3,646,389	12,414,531	25,811,625
Pensions in payment - Total	1,126,893	2,122,837	5,280,283	12,834,916	27,837,441	43,023,771
Tax revenue from pensions in payment (total)	247,916	467,024	1,161,662	2,823,681	6,124,237	9,465,230
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	0.9%

Table 39

Model	Model C - immediate
Immigration	Zero net migration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.8%	0.5%	0.6%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.7%	0.7%	0.7%
	2.5%	4.7%	6.6%	6.8%	7.1%	8.1%

Table 40

Model	Model C - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477

GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 40

Model	Model C - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 40

Model	Model C - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	968,865	521,232	1,028,162	1,668,785	1,836,759	2,665,678
Contributions - voluntary - employer	1,782,081	2,526,914	3,116,975	3,299,887	3,174,842	4,525,918
Contributions - voluntary - self-employed	1,378,539	1,840,833	3,670,607	5,967,436	7,588,155	11,707,370
Contributions - voluntary - Total	4,129,485	4,888,980	7,815,745	10,936,108	12,599,757	18,898,967
- as % of GNP	2.9%	1.8%	1.8%	1.6%	1.2%	1.2%
- as % of labour force earnings	6.6%	4.0%	3.9%	3.5%	2.7%	2.7%
Contributions - mandatory - employee	146,785	3,049,997	4,841,099	7,490,942	11,530,590	17,513,988
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	75,745	1,673,089	2,850,616	4,397,275	6,532,759	10,127,966
Contributions - mandatory - Exchequer	111,265	2,361,543	3,845,858	5,944,109	9,031,674	13,820,977
Contributions - mandatory - Total	333,795	7,084,629	11,537,573	17,832,326	27,095,023	41,462,931
- as % of GNP	0.2%	2.6%	2.6%	2.5%	2.6%	2.6%
- as % of labour force earnings	0.5%	5.7%	5.8%	5.8%	5.8%	5.9%

Table 40

Model	Model C - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	472,378	261,489	531,944	880,752	994,311	1,455,417
Tax relief - voluntary contribs - employer	222,760	315,864	389,622	412,486	396,855	565,740
Tax relief - voluntary contribs - self-employed	545,332	766,269	1,600,378	2,681,625	3,543,746	5,502,464
Tax relief - voluntary contribs - Total	1,240,470	1,343,623	2,521,944	3,974,864	4,934,912	7,523,621
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,196,384	133,516,264	221,319,604	330,240,610	412,632,903	510,139,366
- as % of GNP	48.5%	49.2%	50.0%	47.2%	38.9%	31.6%
Assets in mandatory schemes (end of year)	351,592	45,362,000	191,494,208	472,152,402	929,535,641	1,563,186,801
- as % of GNP	0.2%	16.7%	43.2%	67.5%	87.7%	96.7%
Investment income on total assets	2,832,492	7,403,959	18,058,087	35,969,824	60,565,623	93,305,055
Tax foregone on investment income	566,498	1,480,792	3,611,617	7,193,965	12,113,125	18,661,011
- as % of GNP	0.4%	0.5%	0.8%	1.0%	1.1%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,066,895	4,652,832	9,793,628	18,159,846	22,948,109
Pensions in payment - from mandatory schemes	0	55,239	766,051	4,129,746	16,194,746	38,924,881
Pensions in payment - Total	1,124,795	2,122,134	5,418,883	13,923,375	34,354,592	61,872,990
Tax revenue from pensions in payment (total)	247,455	466,869	1,192,154	3,063,142	7,558,010	13,612,058
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.8%

Table 40

Model	Model C - immediate
Immigration	Sustained high immigration
Investment ret,	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	1.0%	1.1%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.9%	0.9%	0.8%	0.9%	0.9%
	2.5%	3.9%	5.4%	5.4%	5.4%	5.8%

Table 41

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 41

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 41

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 41

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,100,973	130,998,970	210,438,306	297,545,847	341,943,352	386,294,013
- as % of GNP	49.0%	53.3%	55.5%	52.8%	42.7%	33.1%
Assets in mandatory schemes (end of year)	341,100	40,807,592	162,833,871	382,405,368	713,224,582	1,134,817,460
- as % of GNP	0.2%	16.6%	43.0%	67.9%	89.1%	97.4%
Investment income on total assets	2,830,128	7,104,071	16,262,236	30,333,622	47,386,071	68,286,876
Tax foregone on investment income	566,026	1,420,814	3,252,447	6,066,724	9,477,214	13,657,375
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,071,740	4,612,116	9,488,467	16,691,912	19,357,768
Pensions in payment - from mandatory schemes	0	54,094	739,082	3,869,527	14,158,912	30,623,797
Pensions in payment - Total	1,125,648	2,125,834	5,351,198	13,357,994	30,850,824	49,981,565
Tax revenue from pensions in payment (total)	247,643	467,684	1,177,264	2,938,759	6,787,181	10,995,944
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 41

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.3%	6.1%	6.5%	6.7%	7.4%

Table 42

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 42

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 42

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 42

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,276,940	126,226,798	197,775,143	275,892,439	315,755,080	358,142,445
- as % of GNP	49.1%	51.3%	52.2%	49.0%	39.4%	30.7%
Assets in mandatory schemes (end of year)	339,454	39,980,560	156,163,903	359,072,336	658,586,983	1,038,558,059
- as % of GNP	0.2%	16.3%	41.2%	63.7%	82.2%	89.1%
Investment income on total assets	2,506,843	6,083,421	13,723,883	25,248,872	38,998,092	55,904,376
Tax foregone on investment income	501,369	1,216,684	2,744,777	5,049,774	7,799,618	11,180,875
- as % of GNP	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,959,836	4,173,363	8,360,469	14,537,246	16,858,346
Pensions in payment - from mandatory schemes	0	50,202	671,476	3,433,222	12,244,623	26,041,975
Pensions in payment - Total	1,116,734	2,010,038	4,844,839	11,793,691	26,781,868	42,900,321
Tax revenue from pensions in payment (total)	245,682	442,208	1,065,865	2,594,612	5,892,011	9,438,071
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 42

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.2%	5.9%	6.5%	7.0%	7.8%

Table 43

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 43

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 43

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,293	496,946	923,001	1,344,124	1,274,987	1,827,949
Contributions - voluntary - employer	1,745,250	2,376,117	2,760,688	2,693,205	2,267,083	2,986,407
Contributions - voluntary - self-employed	1,344,417	1,700,367	3,148,734	4,643,373	5,269,818	7,898,104
Contributions - voluntary - Total	4,038,960	4,573,430	6,832,424	8,680,702	8,811,888	12,712,460
- as % of GNP	2.9%	1.9%	1.8%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.6%	2.6%	2.5%
Contributions - mandatory - employee	142,479	2,638,571	3,838,037	5,554,284	7,963,938	11,310,680
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,411	1,461,062	2,287,433	3,294,476	4,536,761	6,588,001
Contributions - mandatory - Exchequer	107,945	2,049,816	3,062,735	4,424,380	6,250,350	8,949,340
Contributions - mandatory - Total	323,836	6,149,449	9,188,204	13,273,139	18,751,049	26,848,021
- as % of GNP	0.2%	2.5%	2.4%	2.4%	2.3%	2.3%
- as % of labour force earnings	0.5%	5.6%	5.5%	5.5%	5.4%	5.4%

Table 43

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	248,778	475,421	704,739	687,928	998,026
Tax relief - voluntary contribs - employer	218,156	297,015	345,086	336,651	283,385	373,301
Tax relief - voluntary contribs - self-employed	532,131	702,678	1,358,899	2,064,332	2,454,894	3,712,109
Tax relief - voluntary contribs - Total	1,213,389	1,248,471	2,179,406	3,105,721	3,426,207	5,083,436
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,959,452	135,986,472	224,063,311	321,378,523	371,063,864	417,638,917
- as % of GNP	48.9%	55.3%	59.1%	57.1%	46.3%	35.8%
Assets in mandatory schemes (end of year)	342,747	41,654,019	169,847,914	407,630,042	773,643,801	1,242,612,983
- as % of GNP	0.2%	16.9%	44.8%	72.4%	96.6%	106.6%
Investment income on total assets	3,151,734	8,186,600	19,045,084	36,049,348	56,990,704	82,604,791
Tax foregone on investment income	630,347	1,637,320	3,809,017	7,209,870	11,398,141	16,520,958
- as % of GNP	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,190,666	5,094,374	10,761,674	19,161,746	22,223,744
Pensions in payment - from mandatory schemes	0	58,190	812,257	4,356,276	16,363,436	36,004,991
Pensions in payment - Total	1,134,787	2,248,856	5,906,631	15,117,950	35,525,182	58,228,735
Tax revenue from pensions in payment (total)	249,653	494,748	1,299,459	3,325,949	7,815,540	12,810,322
- as % of GNP	0.2%	0.2%	0.3%	0.6%	1.0%	1.1%

Table 43

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	1.0%	1.3%	1.4%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-1.0%	-1.1%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	4.4%	6.2%	6.4%	6.2%	6.8%

Table 44

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78
Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478
GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 44

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 44

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	919,155	473,850	834,270	1,139,308	1,058,551	1,513,946
Contributions - voluntary - employer	1,688,312	2,222,106	2,496,156	2,353,104	1,895,644	2,397,033
Contributions - voluntary - self-employed	1,291,930	1,573,294	2,775,585	3,919,817	4,377,105	6,448,529
Contributions - voluntary - Total	3,899,396	4,269,250	6,106,012	7,412,229	7,331,300	10,359,508
- as % of GNP	2.8%	1.9%	1.8%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.2%	4.1%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	135,872	2,335,482	3,302,782	4,664,267	6,539,335	9,011,984
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	69,822	1,296,722	1,974,178	2,787,444	3,742,330	5,261,655
Contributions - mandatory - Exchequer	102,847	1,816,102	2,638,480	3,725,856	5,140,832	7,136,820
Contributions - mandatory - Total	308,541	5,448,306	7,915,439	11,177,567	15,422,497	21,410,459
- as % of GNP	0.2%	2.4%	2.3%	2.2%	2.2%	2.1%
- as % of labour force earnings	0.5%	5.4%	5.3%	5.2%	5.2%	5.1%

Table 44

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	448,786	237,072	428,466	595,013	570,339	826,583
Tax relief - voluntary contribs - employer	211,039	277,763	312,020	294,138	236,956	299,629
Tax relief - voluntary contribs - self-employed	511,760	647,116	1,190,151	1,732,997	2,036,951	3,030,809
Tax relief - voluntary contribs - Total	1,171,585	1,161,952	1,930,636	2,622,148	2,844,245	4,157,021
- as % of GNP	0.8%	0.5%	0.6%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,953,998	128,077,987	200,444,993	273,321,095	302,585,265	331,530,552
- as % of GNP	49.9%	55.7%	57.7%	54.2%	42.8%	32.9%
Assets in mandatory schemes (end of year)	324,988	36,833,597	143,507,575	330,428,716	604,663,956	951,491,213
- as % of GNP	0.2%	16.0%	41.3%	65.5%	85.6%	94.4%
Investment income on total assets	2,826,490	6,810,841	14,937,662	26,848,177	40,674,122	57,599,987
Tax foregone on investment income	565,298	1,362,168	2,987,532	5,369,635	8,134,824	11,519,997
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,069,871	4,563,964	9,188,527	15,422,910	17,212,146
Pensions in payment - from mandatory schemes	0	52,966	716,320	3,646,389	12,414,531	25,811,625
Pensions in payment - Total	1,126,893	2,122,837	5,280,283	12,834,916	27,837,441	43,023,771
Tax revenue from pensions in payment (total)	247,916	467,024	1,161,662	2,823,681	6,124,237	9,465,230
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	0.9%

Table 44

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.8%	0.5%	0.6%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.7%	0.7%	0.7%
	2.5%	4.7%	6.6%	6.8%	7.1%	8.1%

Table 45

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477
GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 45

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 45

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	968,865	521,232	1,028,162	1,668,785	1,836,759	2,665,678
Contributions - voluntary - employer	1,782,081	2,526,914	3,116,975	3,299,887	3,174,842	4,525,918
Contributions - voluntary - self-employed	1,378,539	1,840,833	3,670,607	5,967,436	7,588,155	11,707,370
Contributions - voluntary - Total	4,129,485	4,888,980	7,815,745	10,936,108	12,599,757	18,898,967
- as % of GNP	2.9%	1.8%	1.8%	1.6%	1.2%	1.2%
- as % of labour force earnings	6.6%	4.0%	3.9%	3.5%	2.7%	2.7%
Contributions - mandatory - employee	146,785	3,049,997	4,841,099	7,490,942	11,530,590	17,513,988
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	75,745	1,673,089	2,850,616	4,397,275	6,532,759	10,127,966
Contributions - mandatory - Exchequer	111,265	2,361,543	3,845,858	5,944,109	9,031,674	13,820,977
Contributions - mandatory - Total	333,795	7,084,629	11,537,573	17,832,326	27,095,023	41,462,931
- as % of GNP	0.2%	2.6%	2.6%	2.5%	2.6%	2.6%
- as % of labour force earnings	0.5%	5.7%	5.8%	5.8%	5.8%	5.9%

Table 45

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	472,378	261,489	531,944	880,752	994,311	1,455,417
Tax relief - voluntary contribs - employer	222,760	315,864	389,622	412,486	396,855	565,740
Tax relief - voluntary contribs - self-employed	545,332	766,269	1,600,378	2,681,625	3,543,746	5,502,464
Tax relief - voluntary contribs - Total	1,240,470	1,343,623	2,521,944	3,974,864	4,934,912	7,523,621
- as % of GNP	0.9%	0.5%	0.6%	0.6%	0.5%	0.5%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,196,384	133,516,264	221,319,604	330,240,610	412,632,903	510,139,366
- as % of GNP	48.5%	49.2%	50.0%	47.2%	38.9%	31.6%
Assets in mandatory schemes (end of year)	351,592	45,362,000	191,494,208	472,152,402	929,535,641	1,563,186,801
- as % of GNP	0.2%	16.7%	43.2%	67.5%	87.7%	96.7%
Investment income on total assets	2,832,492	7,403,959	18,058,087	35,969,824	60,565,623	93,305,055
Tax foregone on investment income	566,498	1,480,792	3,611,617	7,193,965	12,113,125	18,661,011
- as % of GNP	0.4%	0.5%	0.8%	1.0%	1.1%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,066,895	4,652,832	9,793,628	18,159,846	22,948,109
Pensions in payment - from mandatory schemes	0	55,239	766,051	4,129,746	16,194,746	38,924,881
Pensions in payment - Total	1,124,795	2,122,134	5,418,883	13,923,375	34,354,592	61,872,990
Tax revenue from pensions in payment (total)	247,455	466,869	1,192,154	3,063,142	7,558,010	13,612,058
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.8%

Table 45

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.6%	0.5%	0.5%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	1.0%	1.1%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.9%	0.9%	0.8%	0.9%	0.9%
	2.5%	3.9%	5.4%	5.4%	5.4%	5.8%

Table 46

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625
GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 46

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 46

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,625,810	-5,094,179	-21,804,903	-40,795,379
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,119,288	152,956,756	284,069,554	369,238,593	258,141,512
- as % of GNP	11.5%	23.7%	40.5%	50.6%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,292	471,974	878,027	1,278,842	1,196,753	1,710,764
Contributions - voluntary - employer	1,745,242	2,298,933	2,668,486	2,599,220	2,180,655	2,872,130
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,401,104	6,565,149	8,322,095	8,383,560	12,085,063
- as % of GNP	2.9%	1.8%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	142,479	2,532,875	3,680,432	5,318,021	7,621,159	10,824,210
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 46

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	234,838	450,299	668,679	645,246	934,041
Tax relief - voluntary contribs - employer	218,155	287,367	333,561	324,902	272,582	359,016
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,213,390	1,192,812	2,082,894	2,965,594	3,249,117	4,819,077
- as % of GNP	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,100,970	129,976,719	206,624,704	289,711,793	330,103,734	369,848,150
- as % of GNP	49.0%	53.0%	54.7%	51.6%	41.3%	31.8%
Assets in mandatory schemes (end of year)	341,100	39,742,191	157,362,792	368,744,294	686,669,021	1,091,027,298
- as % of GNP	0.2%	16.2%	41.6%	65.7%	86.0%	93.9%
Investment income on total assets	2,830,128	7,018,870	15,849,985	29,365,189	45,655,012	65,582,930
Tax foregone on investment income	566,026	1,403,774	3,169,997	5,873,038	9,131,002	13,116,586
- as % of GNP	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,073,576	4,570,430	9,325,320	16,285,233	18,734,197
Pensions in payment - from mandatory schemes	0	53,101	717,604	3,745,892	13,696,055	29,553,658
Pensions in payment - Total	1,125,648	2,126,677	5,288,034	13,071,211	29,981,289	48,287,856
Tax revenue from pensions in payment (total)	247,643	467,869	1,163,367	2,875,667	6,595,883	10,623,328
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 46

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.3%	6.0%	6.3%	6.7%	7.2%

Table 47

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625

GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 47

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 47

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,750,931	-3,932,657	-18,574,296	-35,111,074
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,756,831	142,568,111	259,138,085	330,551,650	227,071,681
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.4%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,292	471,974	878,027	1,278,842	1,196,753	1,710,764
Contributions - voluntary - employer	1,745,242	2,298,933	2,668,486	2,599,220	2,180,655	2,872,130
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,401,104	6,565,149	8,322,095	8,383,560	12,085,063
- as % of GNP	2.9%	1.8%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	142,479	2,532,875	3,680,432	5,318,021	7,621,159	10,824,210
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 47

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	234,838	450,299	668,679	645,246	934,041
Tax relief - voluntary contribs - employer	218,155	287,367	333,561	324,902	272,582	359,016
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,213,390	1,192,812	2,082,894	2,965,594	3,249,117	4,819,077
- as % of GNP	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,276,938	125,226,257	194,099,946	268,449,620	304,610,254	342,711,545
- as % of GNP	49.1%	51.1%	51.4%	47.8%	38.2%	29.5%
Assets in mandatory schemes (end of year)	339,454	38,931,770	150,892,213	346,189,994	633,994,400	998,469,182
- as % of GNP	0.2%	15.9%	39.9%	61.6%	79.4%	85.9%
Investment income on total assets	2,506,843	6,008,851	13,369,204	24,431,715	37,561,621	53,683,080
Tax foregone on investment income	501,369	1,201,770	2,673,841	4,886,343	7,512,324	10,736,616
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,961,457	4,135,469	8,214,039	14,176,387	16,308,197
Pensions in payment - from mandatory schemes	0	49,276	651,847	3,322,828	11,841,744	25,129,556
Pensions in payment - Total	1,116,734	2,010,733	4,787,317	11,536,867	26,018,131	41,437,753
Tax revenue from pensions in payment (total)	245,682	442,361	1,053,210	2,538,111	5,723,989	9,116,306
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 47

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.2%	5.9%	6.4%	7.0%	7.6%

Table 48

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,096,723	2,125,513	2,109,530	1,992,138	1,935,485
- DB members (private sector)	228,829	188,390	124,356	62,522	10,989	735
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,275	219,718	194,664	148,374	87,406	79,693
- RAC/PRSA holders	270,447	268,544	237,923	181,346	106,830	97,402
- Others	933,481	1,147,563	1,296,062	1,444,782	1,514,406	1,485,148
Total labour force earnings (18-65)	61,428,942	106,739,008	161,556,390	235,085,939	333,491,923	482,565,625
GNP						
Real GNP	134,735,009	192,225,156	243,044,101	296,268,512	345,530,581	412,501,668
Nominal GNP	141,003,960	245,223,899	377,954,371	561,618,624	798,443,542	1,161,943,871

Table 48

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 48

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,452,239	2,480,620	-6,442,014	-25,553,711	-47,391,467
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,590,929	164,223,988	311,645,714	412,699,989	293,515,513
- as % of GNP	11.6%	24.7%	43.5%	55.5%	51.7%	25.3%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	949,292	471,974	878,027	1,278,842	1,196,753	1,710,764
Contributions - voluntary - employer	1,745,242	2,298,933	2,668,486	2,599,220	2,180,655	2,872,130
Contributions - voluntary - self-employed	1,344,423	1,630,197	3,018,636	4,444,034	5,006,152	7,502,169
Contributions - voluntary - Total	4,038,958	4,401,104	6,565,149	8,322,095	8,383,560	12,085,063
- as % of GNP	2.9%	1.8%	1.7%	1.5%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.1%	4.1%	3.5%	2.5%	2.5%
Contributions - mandatory - employee	142,479	2,532,875	3,680,432	5,318,021	7,621,159	10,824,210
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	73,412	1,409,102	2,210,842	3,186,830	4,393,903	6,382,430
Contributions - mandatory - Exchequer	107,945	1,970,989	2,945,637	4,252,425	6,007,531	8,603,320
Contributions - mandatory - Total	323,836	5,912,966	8,836,911	12,757,276	18,022,594	25,809,960
- as % of GNP	0.2%	2.4%	2.3%	2.3%	2.3%	2.2%
- as % of labour force earnings	0.5%	5.5%	5.5%	5.4%	5.4%	5.3%

Table 48

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	463,102	234,838	450,299	668,679	645,246	934,041
Tax relief - voluntary contribs - employer	218,155	287,367	333,561	324,902	272,582	359,016
Tax relief - voluntary contribs - self-employed	532,133	670,608	1,299,035	1,972,012	2,331,289	3,526,019
Tax relief - voluntary contribs - Total	1,213,390	1,192,812	2,082,894	2,965,594	3,249,117	4,819,077
- as % of GNP	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,959,450	134,941,876	220,104,899	313,127,339	358,474,253	400,090,338
- as % of GNP	48.9%	55.0%	58.2%	55.8%	44.9%	34.4%
Assets in mandatory schemes (end of year)	342,747	40,571,722	164,168,526	393,131,974	744,925,815	1,194,679,556
- as % of GNP	0.2%	16.5%	43.4%	70.0%	93.3%	102.8%
Investment income on total assets	3,151,734	8,090,401	18,571,386	34,914,297	54,926,605	79,346,165
Tax foregone on investment income	630,347	1,618,080	3,714,277	6,982,859	10,985,321	15,869,233
- as % of GNP	0.4%	0.7%	1.0%	1.2%	1.4%	1.4%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,192,736	5,048,592	10,580,166	18,703,916	21,517,614
Pensions in payment - from mandatory schemes	0	57,126	788,793	4,217,987	15,832,036	34,750,027
Pensions in payment - Total	1,134,787	2,249,862	5,837,385	14,798,152	34,535,952	56,267,640
Tax revenue from pensions in payment (total)	249,653	494,970	1,284,225	3,255,594	7,597,909	12,378,881
- as % of GNP	0.2%	0.2%	0.3%	0.6%	1.0%	1.1%

Table 48

Model	Model C - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.6%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.7%	1.0%	1.2%	1.4%	1.4%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-1.0%	-1.1%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.7%
	2.5%	4.4%	6.2%	6.2%	6.3%	6.7%

Table 49

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,915,199	1,903,811	1,841,556	1,713,402	1,633,968
- DB members (private sector)	221,725	179,374	116,117	56,607	9,511	672
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,454	204,281	176,308	130,933	73,362	63,752
- RAC/PRSA holders	258,444	249,676	215,488	160,029	89,664	77,919
- Others	883,636	1,009,360	1,123,391	1,221,478	1,268,357	1,219,117
Total labour force earnings (18-65)	59,180,771	97,387,159	144,079,641	205,660,871	287,621,689	407,638,446

GNP						
Real GNP	132,117,095	179,817,472	222,901,381	265,121,997	304,753,745	356,922,044
Nominal GNP	138,264,239	229,395,270	346,630,718	502,576,025	704,217,436	1,005,385,949

Table 49

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.3%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 49

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,293,953	2,207,933	-6,004,066	-20,812,733	-34,660,883
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,733,391	146,933,644	262,286,685	322,062,077	219,324,172
- as % of GNP	11.7%	24.7%	42.4%	52.2%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	919,153	450,178	794,574	1,084,590	992,476	1,416,462
Contributions - voluntary - employer	1,688,305	2,149,989	2,412,830	2,270,701	1,822,237	2,303,238
Contributions - voluntary - self-employed	1,291,936	1,508,849	2,661,608	3,750,813	4,154,440	6,120,447
Contributions - voluntary - Total	3,899,394	4,109,015	5,869,012	7,106,104	6,969,152	9,840,148
- as % of GNP	2.8%	1.8%	1.7%	1.4%	1.0%	1.0%
- as % of labour force earnings	6.6%	4.2%	4.1%	3.5%	2.4%	2.4%
Contributions - mandatory - employee	135,872	2,241,621	3,165,622	4,463,422	6,253,965	8,616,989
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	69,822	1,249,788	1,906,461	2,694,549	3,622,328	5,093,279
Contributions - mandatory - Exchequer	102,847	1,745,704	2,536,042	3,578,986	4,938,146	6,855,134
Contributions - mandatory - Total	308,541	5,237,113	7,608,125	10,736,957	14,814,438	20,565,402
- as % of GNP	0.2%	2.3%	2.2%	2.1%	2.1%	2.0%
- as % of labour force earnings	0.5%	5.4%	5.3%	5.2%	5.2%	5.0%

Table 49

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	448,785	223,851	406,262	564,760	534,299	773,355
Tax relief - voluntary contribs - employer	211,038	268,749	301,604	283,838	227,780	287,905
Tax relief - voluntary contribs - self-employed	511,762	617,706	1,137,802	1,654,844	1,932,599	2,876,610
Tax relief - voluntary contribs - Total	1,171,586	1,110,306	1,845,668	2,503,442	2,694,678	3,937,870
- as % of GNP	0.8%	0.5%	0.5%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,953,996	127,115,570	196,963,566	266,404,722	292,369,668	317,515,528
- as % of GNP	49.9%	55.4%	56.8%	53.0%	41.5%	31.6%
Assets in mandatory schemes (end of year)	324,988	35,872,738	138,657,073	318,511,368	581,889,668	914,291,926
- as % of GNP	0.2%	15.6%	40.0%	63.4%	82.6%	90.9%
Investment income on total assets	2,826,490	6,732,404	14,568,181	26,000,697	39,187,613	55,300,358
Tax foregone on investment income	565,298	1,346,481	2,913,636	5,200,139	7,837,523	11,060,072
- as % of GNP	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,071,823	4,523,721	9,035,478	15,061,782	16,673,045
Pensions in payment - from mandatory schemes	0	51,990	695,429	3,529,141	12,004,766	24,897,818
Pensions in payment - Total	1,126,893	2,123,814	5,219,150	12,564,618	27,066,549	41,570,863
Tax revenue from pensions in payment (total)	247,916	467,239	1,148,213	2,764,216	5,954,641	9,145,590
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.8%	0.9%

Table 49

Model	Model C - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	4.0%	5.3%	7.1%	9.3%	10.7%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.8%	0.5%	0.5%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.7%	0.7%	0.7%	0.7%
	2.5%	4.8%	6.3%	6.7%	7.2%	8.2%

Table 50

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,353,037	2,531,196	2,672,246	2,698,590	2,746,241
- DB members (private sector)	233,448	196,168	132,344	68,646	13,371	933
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,719	234,411	219,645	179,656	121,685	121,602
- RAC/PRSA holders	278,323	286,502	268,455	219,579	148,726	148,624
- Others	967,476	1,363,449	1,638,244	1,931,859	2,142,300	2,202,574
Total labour force earnings (18-65)	62,909,122	119,352,522	193,363,172	298,330,256	449,181,932	683,294,244

GNP						
Real GNP	136,460,812	211,987,663	284,031,806	368,093,827	457,264,547	572,156,908
Nominal GNP	142,810,060	270,435,162	441,693,759	697,773,609	1,056,635,635	1,611,664,301

Table 50

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 50

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,704,352	3,410,133	-3,311,512	-22,545,688	-53,524,634
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,848,046	162,553,291	321,510,216	456,687,212	338,688,603
- as % of GNP	11.4%	22.1%	36.8%	46.1%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	968,864	494,629	976,317	1,584,323	1,726,249	2,497,767
Contributions - voluntary - employer	1,782,073	2,444,518	3,012,411	3,184,741	3,056,590	4,358,132
Contributions - voluntary - self-employed	1,378,545	1,763,297	3,515,645	5,708,390	7,218,508	11,133,111
Contributions - voluntary - Total	4,129,483	4,702,444	7,504,372	10,477,454	12,001,347	17,989,010
- as % of GNP	2.9%	1.7%	1.7%	1.5%	1.1%	1.1%
- as % of labour force earnings	6.6%	3.9%	3.9%	3.5%	2.7%	2.6%
Contributions - mandatory - employee	146,785	2,927,552	4,644,153	7,177,864	11,043,801	16,779,341
Contributions - mandatory - employer - private	0	0	0	0	0	0
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	75,745	1,614,540	2,758,070	4,258,498	6,332,514	9,822,057
Contributions - mandatory - Exchequer	111,265	2,271,046	3,701,112	5,718,181	8,688,158	13,300,699
Contributions - mandatory - Total	333,795	6,813,138	11,103,336	17,154,543	26,064,473	39,902,098
- as % of GNP	0.2%	2.5%	2.5%	2.5%	2.5%	2.5%
- as % of labour force earnings	0.5%	5.7%	5.7%	5.8%	5.8%	5.8%

Table 50

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	472,378	246,652	503,045	834,193	934,000	1,363,735
Tax relief - voluntary contribs - employer	222,759	305,565	376,551	398,093	382,074	544,766
Tax relief - voluntary contribs - self-employed	545,334	730,750	1,528,855	2,561,285	3,370,331	5,232,562
Tax relief - voluntary contribs - Total	1,240,471	1,282,967	2,408,452	3,793,570	4,686,405	7,141,064
- as % of GNP	0.9%	0.5%	0.5%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,196,382	132,432,131	217,088,053	321,012,875	397,640,026	488,010,852
- as % of GNP	48.5%	49.0%	49.1%	46.0%	37.6%	30.3%
Assets in mandatory schemes (end of year)	351,592	44,166,650	185,044,702	455,367,799	895,294,649	1,503,878,223
- as % of GNP	0.2%	16.3%	41.9%	65.3%	84.7%	93.3%
Investment income on total assets	2,832,492	7,310,930	17,582,935	34,795,286	58,340,069	89,644,334
Tax foregone on investment income	566,498	1,462,186	3,516,587	6,959,057	11,668,014	17,928,867
- as % of GNP	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,068,620	4,609,479	9,619,086	17,695,292	22,171,927
Pensions in payment - from mandatory schemes	0	54,225	743,830	3,998,384	15,668,712	37,579,197
Pensions in payment - Total	1,124,795	2,122,844	5,353,309	13,617,470	33,364,004	59,751,124
Tax revenue from pensions in payment (total)	247,455	467,026	1,177,728	2,995,843	7,340,081	13,145,247
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.8%

Table 50

Model	Model C - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 2

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.6%	7.3%	9.0%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.5%	0.5%	0.5%	0.4%	0.4%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	1.0%	1.1%	1.1%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.5%	3.8%	5.2%	5.4%	5.3%	5.6%

Table 51

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 51

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 51

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,128	1,387,299	2,176,289	2,763,872	2,718,698	3,879,798
Contributions - voluntary - employer	1,715,749	1,908,431	2,163,360	2,027,128	1,584,871	2,030,177
Contributions - voluntary - self-employed	1,367,896	2,142,199	3,819,575	5,519,337	6,330,333	9,451,229
Contributions - voluntary - Total	4,101,773	5,437,929	8,159,224	10,310,336	10,633,902	15,361,204
- as % of GNP	2.9%	2.2%	2.2%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - private	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	876,637	1,372,460	1,976,685	2,722,056	3,952,800
Contributions - mandatory - Exchequer	64,767	1,229,890	1,837,641	2,654,628	3,750,210	5,369,604
Contributions - mandatory - Total	194,301	3,689,669	5,512,922	7,963,883	11,250,629	16,108,813
- as % of GNP	0.1%	1.5%	1.5%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.3%	3.2%

Table 51

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,734	695,212	1,114,646	1,440,923	1,469,836	2,117,918
Tax relief - voluntary contribs - employer	214,469	238,554	270,420	253,391	198,109	253,772
Tax relief - voluntary contribs - self-employed	541,692	890,188	1,651,567	2,456,290	2,951,498	4,442,077
Tax relief - voluntary contribs - Total	1,252,894	1,823,954	3,036,632	4,150,605	4,619,442	6,813,768
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	98,946	143,926	208,286	298,648	424,150
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,166,496	137,146,071	231,781,882	340,145,054	402,736,709	468,935,843
- as % of GNP	49.1%	55.8%	61.1%	60.4%	50.3%	40.2%
Assets in mandatory schemes (end of year)	204,660	24,484,555	97,700,323	229,443,221	427,934,749	680,890,476
- as % of GNP	0.1%	10.0%	25.8%	40.7%	53.4%	58.4%
Investment income on total assets	2,827,890	6,580,293	13,956,740	24,670,384	36,376,306	50,480,582
Tax foregone on investment income	565,578	1,316,059	2,791,348	4,934,077	7,275,261	10,096,116
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,087,290	4,769,601	10,201,535	18,715,023	22,260,326
Pensions in payment - from mandatory schemes	0	32,457	443,449	2,321,716	8,495,347	18,374,278
Pensions in payment - Total	1,125,648	2,119,747	5,213,050	12,523,251	27,210,371	40,634,604
Tax revenue from pensions in payment (total)	247,643	466,344	1,146,871	2,755,115	5,986,282	8,939,613
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 51

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.2%	5.8%	6.2%	6.4%	7.1%

Table 52

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 52

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 52

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,128	1,387,299	2,176,289	2,763,872	2,718,698	3,879,798
Contributions - voluntary - employer	1,715,749	1,908,431	2,163,360	2,027,128	1,584,871	2,030,177
Contributions - voluntary - self-employed	1,367,896	2,142,199	3,819,575	5,519,337	6,330,333	9,451,229
Contributions - voluntary - Total	4,101,773	5,437,929	8,159,224	10,310,336	10,633,902	15,361,204
- as % of GNP	2.9%	2.2%	2.2%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - private	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	876,637	1,372,460	1,976,685	2,722,056	3,952,800
Contributions - mandatory - Exchequer	64,767	1,229,890	1,837,641	2,654,628	3,750,210	5,369,604
Contributions - mandatory - Total	194,301	3,689,669	5,512,922	7,963,883	11,250,629	16,108,813
- as % of GNP	0.1%	1.5%	1.5%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.3%	3.2%

Table 52

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,734	695,212	1,114,646	1,440,923	1,469,836	2,117,918
Tax relief - voluntary contribs - employer	214,469	238,554	270,420	253,391	198,109	253,772
Tax relief - voluntary contribs - self-employed	541,692	890,188	1,651,567	2,456,290	2,951,498	4,442,077
Tax relief - voluntary contribs - Total	1,252,894	1,823,954	3,036,632	4,150,605	4,619,442	6,813,768
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	98,946	143,926	208,286	298,648	424,150
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,342,147	132,245,013	218,272,819	316,086,909	372,500,831	435,001,585
- as % of GNP	49.2%	53.8%	57.6%	56.1%	46.5%	37.3%
Assets in mandatory schemes (end of year)	203,672	23,988,336	93,698,342	215,443,402	395,152,190	623,134,835
- as % of GNP	0.1%	9.8%	24.7%	38.2%	49.3%	53.5%
Investment income on total assets	2,504,797	5,615,261	11,714,131	20,436,802	29,850,298	41,277,702
Tax foregone on investment income	500,959	1,123,052	2,342,826	4,087,360	5,970,060	8,255,540
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,974,250	4,316,657	8,996,080	16,312,033	19,385,078
Pensions in payment - from mandatory schemes	0	30,121	402,886	2,059,933	7,346,774	15,625,185
Pensions in payment - Total	1,116,734	2,004,371	4,719,542	11,056,013	23,658,806	35,010,263
Tax revenue from pensions in payment (total)	245,682	440,962	1,038,299	2,432,323	5,204,937	7,702,258
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.7%

Table 52

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.2%	5.7%	6.3%	6.7%	7.5%

Table 53

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 53

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 53

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,128	1,387,299	2,176,289	2,763,872	2,718,698	3,879,798
Contributions - voluntary - employer	1,715,749	1,908,431	2,163,360	2,027,128	1,584,871	2,030,177
Contributions - voluntary - self-employed	1,367,896	2,142,199	3,819,575	5,519,337	6,330,333	9,451,229
Contributions - voluntary - Total	4,101,773	5,437,929	8,159,224	10,310,336	10,633,902	15,361,204
- as % of GNP	2.9%	2.2%	2.2%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - private	42,744	791,571	1,151,411	1,666,285	2,389,182	3,393,204
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	876,637	1,372,460	1,976,685	2,722,056	3,952,800
Contributions - mandatory - Exchequer	64,767	1,229,890	1,837,641	2,654,628	3,750,210	5,369,604
Contributions - mandatory - Total	194,301	3,689,669	5,512,922	7,963,883	11,250,629	16,108,813
- as % of GNP	0.1%	1.5%	1.5%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.3%	3.2%

Table 53

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,734	695,212	1,114,646	1,440,923	1,469,836	2,117,918
Tax relief - voluntary contribs - employer	214,469	238,554	270,420	253,391	198,109	253,772
Tax relief - voluntary contribs - self-employed	541,692	890,188	1,651,567	2,456,290	2,951,498	4,442,077
Tax relief - voluntary contribs - Total	1,252,894	1,823,954	3,036,632	4,150,605	4,619,442	6,813,768
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	98,946	143,926	208,286	298,648	424,150
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,025,291	142,265,526	246,295,533	366,563,881	436,269,971	506,626,896
- as % of GNP	49.0%	57.8%	65.0%	65.1%	54.5%	43.5%
Assets in mandatory schemes (end of year)	205,648	24,992,411	101,908,748	244,578,025	464,186,281	745,567,790
- as % of GNP	0.1%	10.2%	26.9%	43.4%	58.0%	64.0%
Investment income on total assets	3,149,302	7,605,189	16,421,566	29,437,553	43,845,754	61,096,519
Tax foregone on investment income	629,860	1,521,038	3,284,313	5,887,511	8,769,151	12,219,304
- as % of GNP	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,207,410	5,267,162	11,560,632	21,466,112	25,555,514
Pensions in payment - from mandatory schemes	0	34,914	487,354	2,613,766	9,818,061	21,602,995
Pensions in payment - Total	1,134,787	2,242,324	5,754,517	14,174,398	31,284,173	47,158,508
Tax revenue from pensions in payment (total)	249,653	493,311	1,265,994	3,118,368	6,882,518	10,374,872
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	0.9%

Table 53

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-0.9%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.3%	6.0%	6.0%	5.9%	6.5%

Table 54

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 54

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 54

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	985,431	1,299,585	1,951,905	2,367,689	2,262,384	3,159,422
Contributions - voluntary - employer	1,659,908	1,790,040	1,962,844	1,775,877	1,327,695	1,630,309
Contributions - voluntary - self-employed	1,314,366	1,973,793	3,363,733	4,671,742	5,258,363	7,693,293
Contributions - voluntary - Total	3,959,705	5,063,417	7,278,481	8,815,308	8,848,443	12,483,025
- as % of GNP	2.9%	2.2%	2.1%	1.7%	1.3%	1.2%
- as % of labour force earnings	6.7%	5.0%	4.9%	4.1%	3.0%	3.0%
Contributions - mandatory - employee	40,762	700,645	990,835	1,399,280	1,961,801	2,703,595
Contributions - mandatory - employer - private	40,762	700,645	990,835	1,399,280	1,961,801	2,703,595
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	41,893	778,033	1,184,507	1,672,466	2,245,398	3,156,993
Contributions - mandatory - Exchequer	61,708	1,089,661	1,583,088	2,235,513	3,084,499	4,282,092
Contributions - mandatory - Total	185,125	3,268,983	4,749,264	6,706,540	9,253,498	12,846,275
- as % of GNP	0.1%	1.4%	1.4%	1.3%	1.3%	1.3%
- as % of labour force earnings	0.3%	3.2%	3.2%	3.1%	3.1%	3.0%

Table 54

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	481,173	649,973	996,265	1,229,929	1,222,010	1,724,632
Tax relief - voluntary contribs - employer	207,489	223,755	245,355	221,985	165,962	203,789
Tax relief - voluntary contribs - self-employed	520,898	816,175	1,445,277	2,068,188	2,449,466	3,615,848
Tax relief - voluntary contribs - Total	1,209,560	1,689,902	2,686,898	3,520,102	3,837,437	5,544,269
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.5%	0.5%
Tax relief - mandatory contributions - Total	5,095	87,581	123,854	174,910	245,225	337,949
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,016,909	133,804,545	219,805,707	311,011,802	355,148,886	401,481,623
- as % of GNP	49.9%	58.2%	63.2%	61.7%	50.3%	39.8%
Assets in mandatory schemes (end of year)	194,993	22,100,158	86,104,545	198,257,230	362,798,374	570,894,728
- as % of GNP	0.1%	9.6%	24.8%	39.3%	51.4%	56.6%
Investment income on total assets	2,824,368	6,344,124	12,929,438	22,002,616	31,392,494	42,690,760
Tax foregone on investment income	564,874	1,268,825	2,585,888	4,400,523	6,278,499	8,538,152
- as % of GNP	0.4%	0.6%	0.7%	0.9%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,085,168	4,716,683	9,859,662	17,233,140	19,738,217
Pensions in payment - from mandatory schemes	0	31,779	429,792	2,187,834	7,448,718	15,486,975
Pensions in payment - Total	1,126,893	2,116,947	5,146,475	12,047,495	24,681,858	35,225,192
Tax revenue from pensions in payment (total)	247,916	465,728	1,132,224	2,650,449	5,430,009	7,749,542
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.8%

Table 54

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.7%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.7%	0.9%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.8%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.4%	0.4%	0.4%
	2.5%	4.7%	6.3%	6.6%	6.8%	7.8%

Table 55

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477
GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 55

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 55

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,039,353	1,479,345	2,478,304	3,461,278	3,880,466	5,773,410
Contributions - voluntary - employer	1,751,872	2,021,622	2,423,843	2,460,181	2,209,302	3,071,398
Contributions - voluntary - self-employed	1,402,692	2,329,638	4,476,252	7,104,326	9,098,807	14,071,117
Contributions - voluntary - Total	4,193,917	5,830,605	9,378,399	13,025,785	15,188,575	22,915,925
- as % of GNP	2.9%	2.1%	2.1%	1.9%	1.4%	1.4%
- as % of labour force earnings	6.7%	4.7%	4.7%	4.2%	3.3%	3.2%
Contributions - mandatory - employee	44,036	914,999	1,452,330	2,247,283	3,459,177	5,254,196
Contributions - mandatory - employer - private	44,036	914,999	1,452,330	2,247,283	3,459,177	5,254,196
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	45,447	1,003,853	1,710,370	2,638,365	3,919,655	6,076,780
Contributions - mandatory - Exchequer	66,759	1,416,926	2,307,515	3,566,465	5,419,005	8,292,586
Contributions - mandatory - Total	200,277	4,250,778	6,922,544	10,699,396	16,257,014	24,877,759
- as % of GNP	0.1%	1.6%	1.6%	1.5%	1.5%	1.5%
- as % of labour force earnings	0.3%	3.4%	3.5%	3.5%	3.5%	3.5%

Table 55

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	506,812	743,754	1,276,824	1,818,097	2,102,937	3,151,706
Tax relief - voluntary contribs - employer	218,984	252,703	302,980	307,523	276,163	383,925
Tax relief - voluntary contribs - self-employed	555,165	975,287	1,955,648	3,195,340	4,251,856	6,613,425
Tax relief - voluntary contribs - Total	1,280,961	1,971,744	3,535,453	5,320,959	6,630,956	10,149,056
- as % of GNP	0.9%	0.7%	0.8%	0.8%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,504	114,375	181,541	280,910	432,397	656,775
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,263,595	140,064,318	245,109,906	380,363,193	489,525,371	622,167,912
- as % of GNP	48.5%	51.6%	55.3%	54.3%	46.2%	38.5%
Assets in mandatory schemes (end of year)	210,955	27,217,200	114,896,525	283,291,441	557,721,384	937,912,080
- as % of GNP	0.1%	10.0%	25.9%	40.5%	52.6%	58.0%
Investment income on total assets	2,830,178	6,812,944	15,296,106	28,857,848	46,037,324	68,620,504
Tax foregone on investment income	566,036	1,362,589	3,059,221	5,771,570	9,207,465	13,724,101
- as % of GNP	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,082,578	4,814,761	10,549,302	20,431,987	26,498,714
Pensions in payment - from mandatory schemes	0	33,143	459,630	2,477,848	9,716,847	23,354,928
Pensions in payment - Total	1,124,795	2,115,722	5,274,391	13,027,150	30,148,835	49,853,642
Tax revenue from pensions in payment (total)	247,455	465,459	1,160,366	2,865,973	6,632,744	10,967,801
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.7%

Table 55

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.7%	0.7%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	3.8%	5.1%	5.1%	5.1%	5.3%

Table 56

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,107,334	2,136,269	2,120,206	2,002,220	1,945,280
- DB members (private sector)	228,830	188,577	124,521	62,634	11,030	739
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,201	195,166	148,871	87,917	80,215
- RAC/PRSA holders	270,446	269,134	238,537	181,953	107,454	98,040
- Others	933,481	1,156,914	1,305,538	1,454,241	1,523,312	1,493,779
Total labour force earnings (18-65)	61,428,942	108,267,427	163,869,751	238,452,187	338,267,267	489,475,589
GNP						
Real GNP	134,735,009	192,417,960	243,287,876	296,565,672	345,877,151	412,915,411
Nominal GNP	141,003,960	245,469,860	378,333,462	562,181,933	799,244,388	1,163,109,312

Table 56

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 56

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,454,699	2,628,839	-5,095,625	-21,816,582	-40,818,365
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,133,940	153,027,132	284,220,850	369,445,242	258,286,959
- as % of GNP	11.5%	23.7%	40.4%	50.6%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,127	1,356,645	2,127,875	2,699,908	2,646,645	3,776,023
Contributions - voluntary - employer	1,715,745	1,868,699	2,116,145	1,979,135	1,539,534	1,970,201
Contributions - voluntary - self-employed	1,367,899	2,092,757	3,731,497	5,388,247	6,161,517	9,198,382
Contributions - voluntary - Total	4,101,772	5,318,101	7,975,517	10,067,290	10,347,696	14,944,605
- as % of GNP	2.9%	2.2%	2.1%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - private	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	857,940	1,344,912	1,937,986	2,670,776	3,879,031
Contributions - mandatory - Exchequer	64,767	1,201,462	1,795,416	2,592,609	3,662,648	5,244,852
Contributions - mandatory - Total	194,301	3,604,385	5,386,248	7,777,828	10,987,944	15,734,557
- as % of GNP	0.1%	1.5%	1.4%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.2%	3.2%

Table 56

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,733	679,223	1,089,109	1,406,841	1,430,704	2,061,269
Tax relief - voluntary contribs - employer	214,468	233,587	264,518	247,392	192,442	246,275
Tax relief - voluntary contribs - self-employed	541,693	868,073	1,611,590	2,396,073	2,872,405	4,323,239
Tax relief - voluntary contribs - Total	1,252,894	1,780,883	2,965,218	4,050,305	4,495,550	6,630,783
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	96,561	140,370	202,952	290,907	413,167
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,166,494	136,458,567	229,150,797	334,725,530	394,587,122	457,647,057
- as % of GNP	49.1%	55.6%	60.6%	59.5%	49.4%	39.3%
Assets in mandatory schemes (end of year)	204,660	24,100,636	95,727,846	224,516,978	418,356,293	665,092,364
- as % of GNP	0.1%	9.8%	25.3%	39.9%	52.3%	57.2%
Investment income on total assets	2,827,890	6,537,861	13,759,025	24,218,178	35,596,860	49,291,077
Tax foregone on investment income	565,578	1,307,572	2,751,805	4,843,636	7,119,372	9,858,215
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,088,209	4,742,671	10,093,689	18,439,254	21,840,497
Pensions in payment - from mandatory schemes	0	32,099	435,712	2,277,198	8,328,653	17,988,659
Pensions in payment - Total	1,125,648	2,120,308	5,178,382	12,370,887	26,767,907	39,829,156
Tax revenue from pensions in payment (total)	247,643	466,468	1,139,244	2,721,595	5,888,940	8,762,414
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.8%

Table 56

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.2%	5.8%	6.2%	6.5%	7.0%

Table 57

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,107,334	2,136,269	2,120,206	2,002,220	1,945,280
- DB members (private sector)	228,830	188,577	124,521	62,634	11,030	739
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,201	195,166	148,871	87,917	80,215
- RAC/PRSA holders	270,446	269,134	238,537	181,953	107,454	98,040
- Others	933,481	1,156,914	1,305,538	1,454,241	1,523,312	1,493,779
Total labour force earnings (18-65)	61,428,942	108,267,427	163,869,751	238,452,187	338,267,267	489,475,589
GNP						
Real GNP	134,735,009	192,417,960	243,287,876	296,565,672	345,877,151	412,915,411
Nominal GNP	141,003,960	245,469,860	378,333,462	562,181,933	799,244,388	1,163,109,312

Table 57

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 57

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,454,699	2,754,014	-3,933,595	-18,584,563	-35,131,575
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,771,234	142,635,743	259,280,858	330,743,314	227,204,268
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.4%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,127	1,356,645	2,127,875	2,699,908	2,646,645	3,776,023
Contributions - voluntary - employer	1,715,745	1,868,699	2,116,145	1,979,135	1,539,534	1,970,201
Contributions - voluntary - self-employed	1,367,899	2,092,757	3,731,497	5,388,247	6,161,517	9,198,382
Contributions - voluntary - Total	4,101,772	5,318,101	7,975,517	10,067,290	10,347,696	14,944,605
- as % of GNP	2.9%	2.2%	2.1%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - private	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	857,940	1,344,912	1,937,986	2,670,776	3,879,031
Contributions - mandatory - Exchequer	64,767	1,201,462	1,795,416	2,592,609	3,662,648	5,244,852
Contributions - mandatory - Total	194,301	3,604,385	5,386,248	7,777,828	10,987,944	15,734,557
- as % of GNP	0.1%	1.5%	1.4%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.2%	3.2%

Table 57

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,733	679,223	1,089,109	1,406,841	1,430,704	2,061,269
Tax relief - voluntary contribs - employer	214,468	233,587	264,518	247,392	192,442	246,275
Tax relief - voluntary contribs - self-employed	541,693	868,073	1,611,590	2,396,073	2,872,405	4,323,239
Tax relief - voluntary contribs - Total	1,252,894	1,780,883	2,965,218	4,050,305	4,495,550	6,630,783
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	96,561	140,370	202,952	290,907	413,167
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,342,145	131,571,671	215,736,850	310,941,390	364,838,893	424,426,891
- as % of GNP	49.2%	53.6%	57.0%	55.3%	45.6%	36.5%
Assets in mandatory schemes (end of year)	203,672	23,610,400	91,797,739	210,797,965	386,281,903	608,672,643
- as % of GNP	0.1%	9.6%	24.3%	37.5%	48.3%	52.3%
Investment income on total assets	2,504,797	5,578,291	11,544,707	20,056,377	29,204,506	40,300,894
Tax foregone on investment income	500,959	1,115,658	2,308,941	4,011,275	5,840,901	8,060,179
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,975,054	4,292,162	8,899,300	16,067,620	19,015,365
Pensions in payment - from mandatory schemes	0	29,788	395,814	2,020,181	7,201,677	15,296,409
Pensions in payment - Total	1,116,734	2,004,841	4,687,976	10,919,481	23,269,296	34,311,774
Tax revenue from pensions in payment (total)	245,682	441,065	1,031,355	2,402,286	5,119,245	7,548,590
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.6%

Table 57

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.6%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.2%	5.7%	6.3%	6.8%	7.6%

Table 58

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,107,334	2,136,269	2,120,206	2,002,220	1,945,280
- DB members (private sector)	228,830	188,577	124,521	62,634	11,030	739
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,201	195,166	148,871	87,917	80,215
- RAC/PRSA holders	270,446	269,134	238,537	181,953	107,454	98,040
- Others	933,481	1,156,914	1,305,538	1,454,241	1,523,312	1,493,779
Total labour force earnings (18-65)	61,428,942	108,267,427	163,869,751	238,452,187	338,267,267	489,475,589
GNP						
Real GNP	134,735,009	192,417,960	243,287,876	296,565,672	345,877,151	412,915,411
Nominal GNP	141,003,960	245,469,860	378,333,462	562,181,933	799,244,388	1,163,109,312

Table 58

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.3%	3.7%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 58

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,454,699	2,483,587	-6,444,024	-25,566,960	-47,417,215
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,605,835	164,297,242	311,806,065	412,922,764	293,674,981
- as % of GNP	11.6%	24.7%	43.4%	55.5%	51.7%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,018,127	1,356,645	2,127,875	2,699,908	2,646,645	3,776,023
Contributions - voluntary - employer	1,715,745	1,868,699	2,116,145	1,979,135	1,539,534	1,970,201
Contributions - voluntary - self-employed	1,367,899	2,092,757	3,731,497	5,388,247	6,161,517	9,198,382
Contributions - voluntary - Total	4,101,772	5,318,101	7,975,517	10,067,290	10,347,696	14,944,605
- as % of GNP	2.9%	2.2%	2.1%	1.8%	1.3%	1.3%
- as % of labour force earnings	6.7%	4.9%	4.9%	4.2%	3.1%	3.1%
Contributions - mandatory - employee	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - private	42,744	772,492	1,122,960	1,623,616	2,327,260	3,305,337
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	44,047	857,940	1,344,912	1,937,986	2,670,776	3,879,031
Contributions - mandatory - Exchequer	64,767	1,201,462	1,795,416	2,592,609	3,662,648	5,244,852
Contributions - mandatory - Total	194,301	3,604,385	5,386,248	7,777,828	10,987,944	15,734,557
- as % of GNP	0.1%	1.5%	1.4%	1.4%	1.4%	1.4%
- as % of labour force earnings	0.3%	3.3%	3.3%	3.3%	3.2%	3.2%

Table 58

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	496,733	679,223	1,089,109	1,406,841	1,430,704	2,061,269
Tax relief - voluntary contribs - employer	214,468	233,587	264,518	247,392	192,442	246,275
Tax relief - voluntary contribs - self-employed	541,693	868,073	1,611,590	2,396,073	2,872,405	4,323,239
Tax relief - voluntary contribs - Total	1,252,894	1,780,883	2,965,218	4,050,305	4,495,550	6,630,783
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,343	96,561	140,370	202,952	290,907	413,167
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,025,290	141,563,462	243,564,966	360,852,019	427,593,218	494,560,759
- as % of GNP	49.0%	57.7%	64.4%	64.2%	53.5%	42.5%
Assets in mandatory schemes (end of year)	205,648	24,602,407	99,861,183	239,349,967	453,827,684	728,274,147
- as % of GNP	0.1%	10.0%	26.4%	42.6%	56.8%	62.6%
Investment income on total assets	3,149,302	7,557,100	16,193,653	28,906,361	42,915,585	59,663,489
Tax foregone on investment income	629,860	1,511,420	3,238,731	5,781,272	8,583,117	11,932,698
- as % of GNP	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,208,454	5,237,602	11,440,628	21,155,279	25,079,191
Pensions in payment - from mandatory schemes	0	34,531	478,902	2,563,973	9,626,686	21,150,760
Pensions in payment - Total	1,134,787	2,242,985	5,716,504	14,004,602	30,781,965	46,229,951
Tax revenue from pensions in payment (total)	249,653	493,457	1,257,631	3,081,012	6,772,032	10,170,589
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 58

Model	Model D - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.2%	2.6%	2.9%	2.9%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	4.3%	6.0%	6.1%	6.1%	6.5%

Table 59

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,924,891	1,913,445	1,850,875	1,722,073	1,642,237
- DB members (private sector)	221,725	179,546	116,265	56,705	9,547	675
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,454	204,722	176,752	131,369	73,805	64,194
- RAC/PRSA holders	258,443	250,216	216,030	160,562	90,206	78,459
- Others	883,636	1,017,899	1,131,890	1,229,731	1,276,007	1,226,401
Total labour force earnings (18-65)	59,180,771	98,781,668	146,142,749	208,605,775	291,740,207	413,475,511

GNP						
Real GNP	132,117,095	179,997,831	223,124,953	265,387,917	305,059,415	357,280,040
Nominal GNP	138,264,239	229,625,355	346,978,391	503,080,114	704,923,772	1,006,394,360

Table 59

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.3%	10.6%
Total pension payments for this system	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.3%	10.6%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.3%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 59

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,296,254	2,210,601	-6,006,108	-20,823,557	-34,679,512
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,747,244	146,999,208	262,421,337	322,234,548	219,442,054
- as % of GNP	11.7%	24.7%	42.4%	52.2%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	985,430	1,270,952	1,908,615	2,312,717	2,201,403	3,073,340
Contributions - voluntary - employer	1,659,904	1,752,951	1,920,309	1,733,993	1,289,331	1,581,331
Contributions - voluntary - self-employed	1,314,370	1,928,264	3,286,198	4,560,077	5,115,601	7,483,621
Contributions - voluntary - Total	3,959,703	4,952,167	7,115,123	8,606,786	8,606,335	12,138,291
- as % of GNP	2.9%	2.2%	2.1%	1.7%	1.2%	1.2%
- as % of labour force earnings	6.7%	5.0%	4.9%	4.1%	2.9%	2.9%
Contributions - mandatory - employee	40,762	683,706	966,081	1,363,020	1,910,269	2,632,281
Contributions - mandatory - employer - private	40,762	683,706	966,081	1,363,020	1,910,269	2,632,281
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	41,893	761,147	1,160,152	1,639,079	2,202,344	3,096,605
Contributions - mandatory - Exchequer	61,708	1,064,279	1,546,157	2,182,560	3,011,441	4,180,584
Contributions - mandatory - Total	185,125	3,192,838	4,638,472	6,547,679	9,034,324	12,541,751
- as % of GNP	0.1%	1.4%	1.3%	1.3%	1.3%	1.2%
- as % of labour force earnings	0.3%	3.2%	3.2%	3.1%	3.1%	3.0%

Table 59

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	481,173	635,057	973,477	1,200,689	1,188,904	1,677,642
Tax relief - voluntary contribs - employer	207,488	219,119	240,039	216,749	161,166	197,666
Tax relief - voluntary contribs - self-employed	520,899	795,854	1,410,181	2,017,002	2,382,602	3,517,302
Tax relief - voluntary contribs - Total	1,209,560	1,650,029	2,623,697	3,434,440	3,732,672	5,392,610
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.5%	0.5%
Tax relief - mandatory contributions - Total	5,095	85,463	120,760	170,378	238,784	329,035
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,016,907	133,157,962	217,403,823	306,214,434	348,095,247	391,843,106
- as % of GNP	49.9%	58.0%	62.7%	60.9%	49.4%	38.9%
Assets in mandatory schemes (end of year)	194,993	21,754,006	84,356,230	193,960,895	354,586,254	557,478,798
- as % of GNP	0.1%	9.5%	24.3%	38.6%	50.3%	55.4%
Investment income on total assets	2,824,368	6,304,827	12,751,389	21,605,552	30,721,686	41,678,100
Tax foregone on investment income	564,874	1,260,965	2,550,278	4,321,110	6,144,337	8,335,620
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,086,153	4,690,658	9,758,329	16,987,520	19,374,025
Pensions in payment - from mandatory schemes	0	31,428	422,266	2,145,620	7,301,182	15,157,794
Pensions in payment - Total	1,126,893	2,117,581	5,112,925	11,903,949	24,288,701	34,531,819
Tax revenue from pensions in payment (total)	247,916	465,868	1,124,843	2,618,869	5,343,514	7,597,000
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.8%

Table 59

Model	Model D - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.3%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.7%	0.6%	0.6%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.8%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.4%	0.4%	0.4%	0.4%
	2.5%	4.6%	6.2%	6.6%	6.9%	7.8%

Table 60

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16

Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,364,945	2,544,006	2,685,770	2,712,247	2,760,139
- DB members (private sector)	233,449	196,374	132,532	68,777	13,423	938
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	234,943	220,251	180,293	122,366	122,336
- RAC/PRSA holders	278,322	287,153	269,196	220,358	149,559	149,522
- Others	967,476	1,373,967	1,649,519	1,943,834	2,154,391	2,214,835
Total labour force earnings (18-65)	62,909,122	121,061,557	196,131,982	302,602,113	455,613,867	693,078,485

GNP						
Real GNP	136,460,812	212,200,289	284,316,692	368,463,028	457,723,187	572,730,786
Nominal GNP	142,810,060	270,706,411	442,136,782	698,473,482	1,057,695,450	1,613,280,815

Table 60

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Additional payments for this system (over 34%)	0	0	0	0	0	0
Tax revenues on additional payments	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of unfunded pensions	0	0	0	0	0	0
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 60

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,707,064	3,413,860	-3,311,708	-22,558,241	-53,557,160
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,863,811	162,631,962	321,691,971	456,961,109	338,894,421
- as % of GNP	11.4%	22.1%	36.8%	46.1%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,039,352	1,446,329	2,422,540	3,380,649	3,780,217	5,623,125
Contributions - voluntary - employer	1,751,868	1,979,147	2,370,031	2,400,867	2,146,885	2,982,712
Contributions - voluntary - self-employed	1,402,696	2,275,305	4,372,066	6,935,197	8,862,788	13,704,801
Contributions - voluntary - Total	4,193,915	5,700,781	9,164,637	12,716,713	14,789,890	22,310,639
- as % of GNP	2.9%	2.1%	2.1%	1.8%	1.4%	1.4%
- as % of labour force earnings	6.7%	4.7%	4.7%	4.2%	3.2%	3.2%
Contributions - mandatory - employee	44,036	892,887	1,416,761	2,190,714	3,371,190	5,121,416
Contributions - mandatory - employer - private	44,036	892,887	1,416,761	2,190,714	3,371,190	5,121,416
Contributions - mandatory - employer - public	0	0	0	0	0	0
Contributions - mandatory - self-employed	45,447	982,781	1,677,081	2,588,464	3,847,718	5,966,904
Contributions - mandatory - Exchequer	66,759	1,384,278	2,255,302	3,484,946	5,295,049	8,104,868
Contributions - mandatory - Total	200,277	4,152,834	6,765,905	10,454,839	15,885,148	24,314,604
- as % of GNP	0.1%	1.5%	1.5%	1.5%	1.5%	1.5%
- as % of labour force earnings	0.3%	3.4%	3.4%	3.5%	3.5%	3.5%

Table 60

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	506,812	726,495	1,247,308	1,774,963	2,048,432	3,069,666
Tax relief - voluntary contribs - employer	218,983	247,393	296,254	300,108	268,361	372,839
Tax relief - voluntary contribs - self-employed	555,166	950,897	1,908,138	3,117,293	4,141,180	6,441,257
Tax relief - voluntary contribs - Total	1,280,961	1,924,785	3,451,701	5,192,365	6,457,973	9,883,761
- as % of GNP	0.9%	0.7%	0.8%	0.7%	0.6%	0.6%
Tax relief - mandatory contributions - Total	5,504	111,611	177,095	273,839	421,399	640,177
- as % of GNP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,263,594	139,334,592	242,189,083	373,994,865	479,248,057	607,030,224
- as % of GNP	48.5%	51.5%	54.8%	53.5%	45.3%	37.6%
Assets in mandatory schemes (end of year)	210,955	26,786,311	112,570,446	277,236,549	545,365,558	916,504,938
- as % of GNP	0.1%	9.9%	25.5%	39.7%	51.6%	56.8%
Investment income on total assets	2,830,178	6,766,980	15,070,348	28,313,775	45,040,158	67,014,019
Tax foregone on investment income	566,036	1,353,396	3,014,070	5,662,755	9,008,032	13,402,804
- as % of GNP	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,083,430	4,786,783	10,434,196	20,118,475	25,979,263
Pensions in payment - from mandatory schemes	0	32,778	451,625	2,430,542	9,527,356	22,869,825
Pensions in payment - Total	1,124,795	2,116,208	5,238,408	12,864,738	29,645,832	48,849,089
Tax revenue from pensions in payment (total)	247,455	465,566	1,152,450	2,830,242	6,522,083	10,746,800
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.7%

Table 60

Model	Model D - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 3

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pillar 1 cost of unfunded increase in pension	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	0.8%	0.8%	0.8%	0.7%	0.7%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Exchequer contribution to mandatory scheme	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
	2.4%	3.8%	5.1%	5.1%	5.2%	5.3%

Table 61

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88
Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022
GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 61

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.8%	7.6%	10.2%	12.0%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 61

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,634,895	-5,098,515	-21,839,940	-40,864,336
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Closing fund size	16,218,533	58,163,243	153,167,884	284,523,441	369,858,539	258,577,855
- as % of GNP	11.5%	23.6%	40.4%	50.5%	46.2%	22.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,118	1,113,966	1,659,884	1,993,328	1,688,528	2,338,527
Contributions - voluntary - employer	1,641,250	1,588,368	1,604,410	1,227,492	547,347	488,150
Contributions - voluntary - self-employed	1,310,113	1,064,386	2,180,946	3,384,110	3,751,831	5,677,668
Contributions - voluntary - Total	3,940,482	3,766,720	5,445,240	6,604,930	5,987,707	8,504,345
- as % of GNP	2.8%	1.5%	1.4%	1.2%	0.7%	0.7%
- as % of labour force earnings	6.4%	3.4%	3.3%	2.7%	1.7%	1.7%
Contributions - mandatory - employee	126,015	2,330,827	3,610,116	5,537,495	7,947,726	11,392,019
Contributions - mandatory - employer - private	121,474	2,233,544	3,279,964	4,749,726	6,777,142	9,656,477
Contributions - mandatory - employer - public	4,541	97,284	330,153	787,769	1,170,584	1,735,543
Contributions - mandatory - self-employed	121,797	2,397,898	3,766,294	5,430,854	7,475,455	10,866,496
Contributions - mandatory - Exchequer	97,295	1,849,971	2,764,315	3,990,924	5,639,401	8,076,580
Contributions - mandatory - Total	471,122	8,909,524	13,750,841	20,496,768	29,010,308	41,727,114
- as % of GNP	0.3%	3.6%	3.6%	3.6%	3.6%	3.6%
- as % of labour force earnings	0.8%	8.1%	8.2%	8.4%	8.4%	8.3%

Table 61

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,908	561,003	850,361	1,037,182	909,637	1,276,214
Tax relief - voluntary contribs - employer	205,156	198,546	200,551	153,437	68,418	61,019
Tax relief - voluntary contribs - self-employed	518,926	443,079	948,085	1,511,687	1,748,538	2,668,504
Tax relief - voluntary contribs - Total	1,207,990	1,202,628	1,998,998	2,702,305	2,726,594	4,005,737
- as % of GNP	0.9%	0.5%	0.5%	0.5%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,581,809	2,574,735	4,029,541	5,739,541	8,309,523
- as % of GNP	0.1%	0.6%	0.7%	0.7%	0.7%	0.7%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,998,246	126,367,600	190,123,786	249,803,505	261,564,190	263,339,458
- as % of GNP	48.9%	51.4%	50.2%	44.3%	32.7%	22.6%
Assets in mandatory schemes (end of year)	307,452	36,815,233	146,961,946	345,102,774	643,474,814	1,023,512,974
- as % of GNP	0.2%	15.0%	38.8%	61.3%	80.3%	87.8%
Investment income on total assets	2,827,011	6,749,415	14,704,888	26,648,151	40,891,200	58,202,012
Tax foregone on investment income	565,402	1,349,883	2,940,978	5,329,630	8,178,240	11,640,402
- as % of GNP	0.4%	0.5%	0.8%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,073,082	4,583,376	9,102,721	14,818,089	15,948,494
Pensions in payment - from mandatory schemes	0	48,574	665,697	3,492,078	12,793,119	27,658,332
Pensions in payment - Total	1,125,648	2,121,656	5,249,073	12,594,799	27,611,208	43,606,827
Tax revenue from pensions in payment (total)	247,643	466,764	1,154,796	2,770,856	6,074,466	9,593,502
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.8%

Table 61

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.3%	2.7%	2.9%	3.0%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.7%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.8%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.7%	0.7%	0.7%	0.7%
	2.6%	5.3%	7.0%	7.3%	7.3%	7.8%

Table 62

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 62

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.8%	7.6%	10.2%	12.0%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 62

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,760,180	-3,935,470	-18,605,096	-35,172,578
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Closing fund size	16,077,526	55,800,039	142,771,006	259,566,404	331,126,643	227,469,442
- as % of GNP	11.4%	22.7%	37.7%	46.1%	41.3%	19.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,118	1,113,966	1,659,884	1,993,328	1,688,528	2,338,527
Contributions - voluntary - employer	1,641,250	1,588,368	1,604,410	1,227,492	547,347	488,150
Contributions - voluntary - self-employed	1,310,113	1,064,386	2,180,946	3,384,110	3,751,831	5,677,668
Contributions - voluntary - Total	3,940,482	3,766,720	5,445,240	6,604,930	5,987,707	8,504,345
- as % of GNP	2.8%	1.5%	1.4%	1.2%	0.7%	0.7%
- as % of labour force earnings	6.4%	3.4%	3.3%	2.7%	1.7%	1.7%
Contributions - mandatory - employee	126,015	2,330,827	3,610,116	5,537,495	7,947,726	11,392,019
Contributions - mandatory - employer - private	121,474	2,233,544	3,279,964	4,749,726	6,777,142	9,656,477
Contributions - mandatory - employer - public	4,541	97,284	330,153	787,769	1,170,584	1,735,543
Contributions - mandatory - self-employed	121,797	2,397,898	3,766,294	5,430,854	7,475,455	10,866,496
Contributions - mandatory - Exchequer	97,295	1,849,971	2,764,315	3,990,924	5,639,401	8,076,580
Contributions - mandatory - Total	471,122	8,909,524	13,750,841	20,496,768	29,010,308	41,727,114
- as % of GNP	0.3%	3.6%	3.6%	3.6%	3.6%	3.6%
- as % of labour force earnings	0.8%	8.1%	8.2%	8.4%	8.4%	8.3%

Table 62

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,908	561,003	850,361	1,037,182	909,637	1,276,214
Tax relief - voluntary contribs - employer	205,156	198,546	200,551	153,437	68,418	61,019
Tax relief - voluntary contribs - self-employed	518,926	443,079	948,085	1,511,687	1,748,538	2,668,504
Tax relief - voluntary contribs - Total	1,207,990	1,202,628	1,998,998	2,702,305	2,726,594	4,005,737
- as % of GNP	0.9%	0.5%	0.5%	0.5%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,581,809	2,574,735	4,029,541	5,739,541	8,309,523
- as % of GNP	0.1%	0.6%	0.7%	0.7%	0.7%	0.7%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,174,709	121,688,705	178,244,898	230,826,743	240,678,241	243,699,771
- as % of GNP	49.1%	49.5%	47.0%	41.0%	30.1%	20.9%
Assets in mandatory schemes (end of year)	305,968	36,069,236	140,942,698	324,045,172	594,187,729	936,743,608
- as % of GNP	0.2%	14.7%	37.2%	57.5%	74.2%	80.4%
Investment income on total assets	2,504,084	5,773,991	12,393,580	22,165,500	33,646,113	47,651,621
Tax foregone on investment income	500,817	1,154,798	2,478,716	4,433,100	6,729,223	9,530,324
- as % of GNP	0.4%	0.5%	0.7%	0.8%	0.8%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,961,128	4,148,015	8,020,799	12,909,114	13,913,344
Pensions in payment - from mandatory schemes	0	45,078	604,777	3,098,133	11,062,828	23,520,372
Pensions in payment - Total	1,116,734	2,006,206	4,752,792	11,118,931	23,971,942	37,433,716
Tax revenue from pensions in payment (total)	245,682	441,365	1,045,614	2,446,165	5,273,827	8,235,417
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.7%	0.7%

Table 62

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.3%	2.7%	2.9%	3.0%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.3%	-3.0%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.8%	0.8%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.7%	-0.7%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.7%	0.7%	0.7%	0.7%
	2.6%	5.3%	6.9%	7.5%	7.6%	8.2%

Table 63

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,122,189	2,151,329	2,135,152	2,016,334	1,958,993
- DB members (private sector)	228,831	188,839	124,751	62,790	11,088	744
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,274	220,877	195,870	149,567	88,632	80,946
- RAC/PRSA holders	270,446	269,960	239,396	182,804	108,327	98,934
- Others	933,481	1,170,006	1,318,804	1,467,485	1,535,780	1,505,862
Total labour force earnings (18-65)	61,428,942	110,578,744	167,368,079	243,542,717	345,488,671	499,925,022

GNP						
Real GNP	134,735,009	192,803,567	243,775,427	297,159,992	346,570,291	413,742,897
Nominal GNP	141,003,960	245,961,784	379,091,646	563,308,550	800,846,081	1,165,440,192

Table 63

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.8%	7.6%	10.2%	12.0%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.8%	3.3%	3.6%	3.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.6%	2.2%	2.6%	2.8%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 63

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,459,618	2,489,523	-6,448,043	-25,593,457	-47,468,711
- as % of GNP	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Closing fund size	16,360,183	60,635,646	164,443,751	312,126,765	413,368,315	293,993,917
- as % of GNP	11.6%	24.7%	43.4%	55.4%	51.6%	25.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,118	1,113,966	1,659,884	1,993,328	1,688,528	2,338,527
Contributions - voluntary - employer	1,641,250	1,588,368	1,604,410	1,227,492	547,347	488,150
Contributions - voluntary - self-employed	1,310,113	1,064,386	2,180,946	3,384,110	3,751,831	5,677,668
Contributions - voluntary - Total	3,940,482	3,766,720	5,445,240	6,604,930	5,987,707	8,504,345
- as % of GNP	2.8%	1.5%	1.4%	1.2%	0.7%	0.7%
- as % of labour force earnings	6.4%	3.4%	3.3%	2.7%	1.7%	1.7%
Contributions - mandatory - employee	126,015	2,330,827	3,610,116	5,537,495	7,947,726	11,392,019
Contributions - mandatory - employer - private	121,474	2,233,544	3,279,964	4,749,726	6,777,142	9,656,477
Contributions - mandatory - employer - public	4,541	97,284	330,153	787,769	1,170,584	1,735,543
Contributions - mandatory - self-employed	121,797	2,397,898	3,766,294	5,430,854	7,475,455	10,866,496
Contributions - mandatory - Exchequer	97,295	1,849,971	2,764,315	3,990,924	5,639,401	8,076,580
Contributions - mandatory - Total	471,122	8,909,524	13,750,841	20,496,768	29,010,308	41,727,114
- as % of GNP	0.3%	3.6%	3.6%	3.6%	3.6%	3.6%
- as % of labour force earnings	0.8%	8.1%	8.2%	8.4%	8.4%	8.3%

Table 63

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,908	561,003	850,361	1,037,182	909,637	1,276,214
Tax relief - voluntary contribs - employer	205,156	198,546	200,551	153,437	68,418	61,019
Tax relief - voluntary contribs - self-employed	518,926	443,079	948,085	1,511,687	1,748,538	2,668,504
Tax relief - voluntary contribs - Total	1,207,990	1,202,628	1,998,998	2,702,305	2,726,594	4,005,737
- as % of GNP	0.9%	0.5%	0.5%	0.5%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,581,809	2,574,735	4,029,541	5,739,541	8,309,523
- as % of GNP	0.1%	0.6%	0.7%	0.7%	0.7%	0.7%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,856,230	131,259,505	202,925,298	270,755,788	284,895,508	285,342,394
- as % of GNP	48.8%	53.4%	53.5%	48.1%	35.6%	24.5%
Assets in mandatory schemes (end of year)	308,936	37,578,722	153,291,666	367,867,331	697,975,320	1,120,672,500
- as % of GNP	0.2%	15.3%	40.4%	65.3%	87.2%	96.2%
Investment income on total assets	3,148,257	7,785,015	17,243,945	31,695,985	49,198,751	70,418,014
Tax foregone on investment income	629,651	1,557,003	3,448,789	6,339,197	9,839,750	14,083,603
- as % of GNP	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,192,055	5,061,877	10,324,267	17,007,159	18,280,293
Pensions in payment - from mandatory schemes	0	52,253	731,638	3,931,596	14,785,829	32,517,959
Pensions in payment - Total	1,134,787	2,244,308	5,793,515	14,255,863	31,792,988	50,798,252
Tax revenue from pensions in payment (total)	249,653	493,748	1,274,573	3,136,290	6,994,457	11,175,616
- as % of GNP	0.2%	0.2%	0.3%	0.6%	0.9%	1.0%

Table 63

Model	Mandatory System E
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	4.9%	6.5%	8.7%	10.2%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.6%	2.3%	2.7%	2.9%	3.0%
NPRF	1.0%	1.0%	0.7%	-1.1%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.6%	-0.9%	-1.0%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.7%	0.7%	0.7%	0.7%
	2.6%	5.4%	7.1%	7.2%	6.9%	7.2%

Table 64

Model	Mandatory System E
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78

Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,938,460	1,926,934	1,863,923	1,734,212	1,653,813
- DB members (private sector)	221,726	179,787	116,473	56,842	9,597	681
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,453	205,341	177,374	131,979	74,426	64,812
- RAC/PRSA holders	258,443	250,972	216,790	161,308	90,965	79,214
- Others	883,636	1,029,853	1,143,789	1,241,285	1,286,717	1,236,599
Total labour force earnings (18-65)	59,180,771	100,890,480	149,262,637	213,059,137	297,968,342	422,302,478

GNP						
Real GNP	132,117,095	180,358,548	223,572,097	265,919,756	305,670,757	357,996,032
Nominal GNP	138,264,239	230,085,526	347,673,739	504,088,290	706,336,445	1,008,411,183

Table 64

Model	Mandatory System E
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Total pension payments for this system	4,358,596	10,664,183	21,768,957	42,071,233	76,777,274	126,016,146
- as % of GNP	3.2%	4.6%	6.3%	8.3%	10.9%	12.5%
Additional payments for this system (over 34%)	75,583	1,599,628	3,265,343	6,310,685	11,516,591	18,902,422
Tax revenues on additional payments	15,117	319,926	653,069	1,262,137	2,303,318	3,780,484
- as % of GNP	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%
Cost of unfunded pensions	75,583	1,458,040	2,378,918	3,223,864	3,226,687	2,253,577
- as % of GNP	0.1%	0.6%	0.7%	0.6%	0.5%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.2%	3.1%	3.7%	4.1%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.4%	2.9%	3.2%	3.3%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 64

Model	Mandatory System E
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,300,855	2,215,939	-6,010,192	-20,845,204	-34,716,771
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Closing fund size	16,175,959	56,774,952	147,130,335	262,690,640	322,579,490	219,677,817
- as % of GNP	11.7%	24.7%	42.3%	52.1%	45.7%	21.8%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	957,563	1,057,573	1,507,161	1,711,207	1,405,935	1,924,105
Contributions - voluntary - employer	1,588,075	1,503,786	1,478,563	1,093,094	464,869	394,301
Contributions - voluntary - self-employed	1,259,105	994,589	1,927,829	2,840,504	3,112,677	4,668,158
Contributions - voluntary - Total	3,804,743	3,555,949	4,913,554	5,644,805	4,983,481	6,986,565
- as % of GNP	2.8%	1.5%	1.4%	1.1%	0.7%	0.7%
- as % of labour force earnings	6.4%	3.5%	3.3%	2.6%	1.7%	1.7%
Contributions - mandatory - employee	120,442	2,082,221	3,164,654	4,789,081	6,760,711	9,475,743
Contributions - mandatory - employer - private	115,901	1,984,937	2,834,501	4,001,312	5,590,127	7,740,201
Contributions - mandatory - employer - public	4,541	97,284	330,153	787,769	1,170,584	1,735,543
Contributions - mandatory - self-employed	115,910	2,134,057	3,256,682	4,600,160	6,184,070	8,709,138
Contributions - mandatory - Exchequer	92,713	1,638,989	2,380,892	3,360,626	4,638,300	6,440,019
Contributions - mandatory - Total	449,508	7,937,487	11,966,882	17,538,949	24,343,791	34,100,643
- as % of GNP	0.3%	3.4%	3.4%	3.5%	3.4%	3.4%
- as % of labour force earnings	0.8%	7.9%	8.0%	8.2%	8.2%	8.1%

Table 64

Model	Mandatory System E
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	468,856	532,129	770,147	887,284	756,579	1,049,993
Tax relief - voluntary contribs - employer	198,509	187,973	184,820	136,637	58,109	49,288
Tax relief - voluntary contribs - self-employed	499,118	412,556	833,225	1,262,000	1,449,230	2,194,034
Tax relief - voluntary contribs - Total	1,166,484	1,132,658	1,788,192	2,285,921	2,263,917	3,293,315
- as % of GNP	0.8%	0.5%	0.5%	0.5%	0.3%	0.3%
Tax relief - mandatory contributions - Total	79,368	1,415,900	2,263,415	3,516,716	4,936,938	6,990,123
- as % of GNP	0.1%	0.6%	0.7%	0.7%	0.7%	0.7%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,855,262	123,899,029	182,578,585	231,993,215	233,957,834	228,076,730
- as % of GNP	49.8%	53.8%	52.5%	46.0%	33.1%	22.6%
Assets in mandatory schemes (end of year)	292,971	33,231,850	129,510,876	298,171,017	545,501,576	858,137,043
- as % of GNP	0.2%	14.4%	37.3%	59.2%	77.2%	85.1%
Investment income on total assets	2,823,503	6,490,359	13,565,879	23,661,280	35,148,173	49,123,766
Tax foregone on investment income	564,701	1,298,072	2,713,176	4,732,256	7,029,635	9,824,753
- as % of GNP	0.4%	0.6%	0.8%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,071,322	4,538,040	8,839,260	13,795,285	14,297,990
Pensions in payment - from mandatory schemes	0	47,556	645,132	3,290,229	11,215,100	23,308,532
Pensions in payment - Total	1,126,893	2,118,878	5,183,172	12,129,489	25,010,386	37,606,523
Tax revenue from pensions in payment (total)	247,916	466,153	1,140,298	2,668,488	5,502,285	8,273,435
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.8%

Table 64

Model	Mandatory System E
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	3.9%	5.3%	7.1%	9.2%	10.6%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.7%	0.6%	0.5%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.5%	3.1%	3.4%	3.5%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.0%	1.0%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.8%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.8%
Exchequer contribution to mandatory scheme	0.1%	0.7%	0.7%	0.7%	0.7%	0.6%
	2.7%	5.7%	7.6%	7.9%	8.0%	8.6%

Table 65

Model	Mandatory System E
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,381,616	2,561,939	2,704,703	2,731,366	2,779,596
- DB members (private sector)	233,450	196,663	132,796	68,961	13,496	945
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,718	235,689	221,100	181,185	123,320	123,364
- RAC/PRSA holders	278,322	288,065	270,233	221,449	150,724	150,778
- Others	967,476	1,388,692	1,665,303	1,960,600	2,171,319	2,232,001
Total labour force earnings (18-65)	62,909,122	123,646,006	200,319,050	309,062,130	465,340,412	707,874,477
GNP						
Real GNP	136,460,812	212,625,540	284,886,465	369,201,431	458,640,468	573,878,544
Nominal GNP	142,810,060	271,248,908	443,022,827	699,873,228	1,059,815,081	1,616,513,843

Table 65

Model	Mandatory System E
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Total pension payments for this system	4,369,131	10,959,633	22,833,484	45,596,640	90,677,461	169,725,375
- as % of GNP	3.1%	4.0%	5.2%	6.5%	8.6%	10.5%
Additional payments for this system (over 34%)	75,765	1,643,945	3,425,023	6,839,496	13,601,619	25,458,806
Tax revenues on additional payments	15,153	328,789	685,005	1,367,899	2,720,324	5,091,761
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%
Cost of unfunded pensions	75,765	1,497,396	2,489,311	3,455,720	3,571,638	2,585,753
- as % of GNP	0.1%	0.6%	0.6%	0.5%	0.3%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.4%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 65

Model	Mandatory System E
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,712,489	3,421,312	-3,312,098	-22,583,347	-53,622,213
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Closing fund size	16,246,601	59,895,340	162,789,304	322,055,480	457,508,903	339,306,055
- as % of GNP	11.4%	22.1%	36.7%	46.0%	43.2%	21.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,009,600	1,168,563	1,840,122	2,441,548	2,410,479	3,431,685
Contributions - voluntary - employer	1,675,643	1,661,941	1,740,077	1,408,356	730,352	728,711
Contributions - voluntary - self-employed	1,343,274	1,141,383	2,512,482	4,332,921	5,431,452	8,339,260
Contributions - voluntary - Total	4,028,517	3,971,887	6,092,681	8,182,825	8,572,282	12,499,655
- as % of GNP	2.8%	1.5%	1.4%	1.2%	0.8%	0.8%
- as % of labour force earnings	6.4%	3.2%	3.0%	2.6%	1.8%	1.8%
Contributions - mandatory - employee	129,667	2,669,974	4,439,078	7,156,677	10,928,573	16,554,848
Contributions - mandatory - employer - private	125,126	2,572,691	4,108,926	6,368,908	9,757,989	14,819,306
Contributions - mandatory - employer - public	4,541	97,284	330,153	787,769	1,170,584	1,735,543
Contributions - mandatory - self-employed	125,639	2,739,000	4,676,374	7,229,769	10,727,312	16,614,261
Contributions - mandatory - Exchequer	100,277	2,130,992	3,471,675	5,362,974	8,148,772	12,474,175
Contributions - mandatory - Total	485,250	10,209,941	17,026,206	26,906,096	40,733,229	62,198,133
- as % of GNP	0.3%	3.8%	3.8%	3.8%	3.8%	3.8%
- as % of labour force earnings	0.8%	8.3%	8.5%	8.7%	8.8%	8.8%

Table 65

Model	Mandatory System E
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	493,656	589,419	946,382	1,278,706	1,302,390	1,872,907
Tax relief - voluntary contribs - employer	209,455	207,743	217,510	176,045	91,294	91,089
Tax relief - voluntary contribs - self-employed	531,762	477,943	1,101,556	1,954,293	2,537,452	3,919,452
Tax relief - voluntary contribs - Total	1,234,873	1,275,105	2,265,448	3,409,044	3,931,136	5,883,448
- as % of GNP	0.9%	0.5%	0.5%	0.5%	0.4%	0.4%
Tax relief - mandatory contributions - Total	85,313	1,801,863	3,140,396	5,141,108	7,759,037	11,839,235
- as % of GNP	0.1%	0.7%	0.7%	0.7%	0.7%	0.7%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,091,061	128,414,929	197,630,818	271,656,084	307,825,034	340,767,556
- as % of GNP	48.4%	47.3%	44.6%	38.8%	29.0%	21.1%
Assets in mandatory schemes (end of year)	316,878	40,917,464	172,818,848	426,110,034	838,672,891	1,409,950,501
- as % of GNP	0.2%	15.1%	39.0%	60.9%	79.1%	87.2%
Investment income on total assets	2,829,291	7,012,296	16,236,847	31,435,739	52,091,738	79,410,435
Tax foregone on investment income	565,858	1,402,459	3,247,369	6,287,148	10,418,348	15,882,087
- as % of GNP	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,068,047	4,619,942	9,363,017	15,970,996	18,619,408
Pensions in payment - from mandatory schemes	0	49,606	690,056	3,727,428	14,634,836	35,161,535
Pensions in payment - Total	1,124,795	2,117,653	5,309,999	13,090,445	30,605,831	53,780,944
Tax revenue from pensions in payment (total)	247,455	465,884	1,168,200	2,879,898	6,733,283	11,831,808
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.7%

Table 65

Model	Mandatory System E
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	NPR

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.4%	4.4%	5.5%	7.3%	8.9%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.5%	0.3%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	2.0%	2.2%	2.2%	2.2%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.1%	-3.3%
Pillar 2 - tax relief on contributions	0.9%	1.1%	1.2%	1.2%	1.1%	1.1%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	1.0%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Exchequer contribution to mandatory scheme	0.1%	0.8%	0.8%	0.8%	0.8%	0.8%
	2.6%	4.9%	6.3%	6.3%	6.0%	6.2%

Table 66

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 66

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.9%	7.8%	10.4%	12.2%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 66

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,592,213	-5,112,281	-21,708,104	-40,486,447
- as % of GNP	1.0%	1.0%	0.7%	-0.9%	-2.8%	-3.5%
Closing fund size	16,218,533	58,016,728	152,401,656	282,571,987	366,743,285	256,186,677
- as % of GNP	11.5%	23.8%	40.7%	50.9%	46.6%	22.4%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,115	1,026,355	1,489,410	1,728,129	1,355,964	1,801,842
Contributions - voluntary - employer	1,641,232	1,469,671	1,443,632	1,056,052	391,571	276,323
Contributions - voluntary - self-employed	1,310,128	965,115	1,927,501	2,894,284	2,990,106	4,372,184
Contributions - voluntary - Total	3,940,476	3,461,140	4,860,543	5,678,466	4,737,640	6,450,348
- as % of GNP	2.8%	1.4%	1.3%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.4%	3.4%	3.2%	2.6%	1.6%	1.5%
Contributions - mandatory - employee	126,015	2,112,258	3,193,098	4,779,000	6,680,917	9,334,162
Contributions - mandatory - employer - private	121,474	2,019,839	2,883,580	4,050,314	5,612,760	7,771,935
Contributions - mandatory - employer - public	4,541	92,419	309,518	728,687	1,068,158	1,562,227
Contributions - mandatory - self-employed	121,797	2,184,425	3,364,657	4,747,195	6,398,778	9,097,165
Contributions - mandatory - Exchequer	97,295	1,663,807	2,420,008	3,387,656	4,652,928	6,479,652
Contributions - mandatory - Total	471,122	8,072,748	12,170,862	17,692,851	24,413,541	34,245,141
- as % of GNP	0.3%	3.3%	3.3%	3.2%	3.1%	3.0%
- as % of labour force earnings	0.8%	7.9%	8.1%	8.2%	8.2%	8.1%

Table 66

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,906	515,053	760,058	895,335	729,260	983,318
Tax relief - voluntary contribs - employer	205,154	183,709	180,454	132,007	48,946	34,540
Tax relief - voluntary contribs - self-employed	518,932	395,342	828,215	1,281,469	1,390,864	2,054,926
Tax relief - voluntary contribs - Total	1,207,992	1,094,105	1,768,726	2,308,810	2,169,069	3,072,784
- as % of GNP	0.9%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,446,121	2,308,047	3,544,243	4,935,967	6,988,936
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.6%	0.6%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,998,240	124,393,392	182,647,595	233,106,684	233,796,357	220,432,420
- as % of GNP	48.9%	51.1%	48.8%	42.0%	29.7%	19.3%
Assets in mandatory schemes (end of year)	307,452	34,289,487	132,823,286	305,987,306	559,155,449	867,882,245
- as % of GNP	0.2%	14.1%	35.5%	55.1%	71.1%	76.0%
Investment income on total assets	2,827,011	6,563,377	13,736,367	24,110,521	35,788,184	49,174,807
Tax foregone on investment income	565,402	1,312,675	2,747,273	4,822,104	7,157,637	9,834,961
- as % of GNP	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,125,648	2,079,120	4,500,355	8,751,040	13,900,930	14,431,695
Pensions in payment - from mandatory schemes	0	46,187	612,744	3,168,671	11,500,628	24,473,376
Pensions in payment - Total	1,125,648	2,125,308	5,113,099	11,919,711	25,401,558	38,905,071
Tax revenue from pensions in payment (total)	247,643	467,568	1,124,882	2,622,337	5,588,343	8,559,116
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.7%

Table 66

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.3%	2.7%	3.0%	3.0%
NPRF	1.0%	1.0%	0.7%	-0.9%	-2.8%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	0.9%	0.9%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.7%
Exchequer contribution to mandatory scheme	0.1%	0.7%	0.6%	0.6%	0.6%	0.6%
	2.6%	5.2%	6.8%	7.2%	7.1%	7.7%

Table 67

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056

Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 67

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.9%	7.8%	10.4%	12.2%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 67

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,717,443	-3,952,693	-18,491,062	-34,840,414
- as % of GNP	1.0%	1.0%	0.7%	-0.7%	-2.4%	-3.1%
Closing fund size	16,077,526	55,656,014	142,034,015	257,734,709	328,269,189	225,321,255
- as % of GNP	11.4%	22.9%	37.9%	46.5%	41.7%	19.7%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,115	1,026,355	1,489,410	1,728,129	1,355,964	1,801,842
Contributions - voluntary - employer	1,641,232	1,469,671	1,443,632	1,056,052	391,571	276,323
Contributions - voluntary - self-employed	1,310,128	965,115	1,927,501	2,894,284	2,990,106	4,372,184
Contributions - voluntary - Total	3,940,476	3,461,140	4,860,543	5,678,466	4,737,640	6,450,348
- as % of GNP	2.8%	1.4%	1.3%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.4%	3.4%	3.2%	2.6%	1.6%	1.5%
Contributions - mandatory - employee	126,015	2,112,258	3,193,098	4,779,000	6,680,917	9,334,162
Contributions - mandatory - employer - private	121,474	2,019,839	2,883,580	4,050,314	5,612,760	7,771,935
Contributions - mandatory - employer - public	4,541	92,419	309,518	728,687	1,068,158	1,562,227
Contributions - mandatory - self-employed	121,797	2,184,425	3,364,657	4,747,195	6,398,778	9,097,165
Contributions - mandatory - Exchequer	97,295	1,663,807	2,420,008	3,387,656	4,652,928	6,479,652
Contributions - mandatory - Total	471,122	8,072,748	12,170,862	17,692,851	24,413,541	34,245,141
- as % of GNP	0.3%	3.3%	3.3%	3.2%	3.1%	3.0%
- as % of labour force earnings	0.8%	7.9%	8.1%	8.2%	8.2%	8.1%

Table 67

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,906	515,053	760,058	895,335	729,260	983,318
Tax relief - voluntary contribs - employer	205,154	183,709	180,454	132,007	48,946	34,540
Tax relief - voluntary contribs - self-employed	518,932	395,342	828,215	1,281,469	1,390,864	2,054,926
Tax relief - voluntary contribs - Total	1,207,992	1,094,105	1,768,726	2,308,810	2,169,069	3,072,784
- as % of GNP	0.9%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,446,121	2,308,047	3,544,243	4,935,967	6,988,936
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.6%	0.6%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,174,703	119,759,206	171,036,416	214,901,413	214,369,229	203,117,021
- as % of GNP	49.1%	49.2%	45.7%	38.7%	27.2%	17.8%
Assets in mandatory schemes (end of year)	305,968	33,582,958	127,298,828	287,004,432	515,542,705	792,960,274
- as % of GNP	0.2%	13.8%	34.0%	51.7%	65.5%	69.4%
Investment income on total assets	2,504,084	5,611,001	11,558,061	20,013,001	29,378,356	40,164,842
Tax foregone on investment income	500,817	1,122,200	2,311,612	4,002,600	5,875,671	8,032,968
- as % of GNP	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,116,734	1,966,516	4,072,381	7,704,285	12,090,783	12,565,562
Pensions in payment - from mandatory schemes	0	42,853	556,359	2,808,791	9,932,853	20,786,513
Pensions in payment - Total	1,116,734	2,009,369	4,628,740	10,513,076	22,023,636	33,352,075
Tax revenue from pensions in payment (total)	245,682	442,061	1,018,323	2,312,877	4,845,200	7,337,456
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.6%

Table 67

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Lower (-0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.3%	2.7%	3.0%	3.0%
NPRF	1.0%	1.0%	0.7%	-0.7%	-2.4%	-3.1%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	0.9%	0.9%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.6%
Exchequer contribution to mandatory scheme	0.1%	0.7%	0.6%	0.6%	0.6%	0.6%
	2.6%	5.2%	6.7%	7.3%	7.4%	8.0%

Table 68

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	868,205	969,234	889,199	821,703	844,478	807,302
15-64	2,833,684	3,048,290	3,176,441	3,176,388	2,980,157	2,879,153
65+	463,530	620,288	843,712	1,105,446	1,403,467	1,532,393
Total	4,165,419	4,637,812	4,909,352	5,103,536	5,228,103	5,218,848
65+ as % of total	11.1%	13.4%	17.2%	21.7%	26.8%	29.4%
Ratio of 15-64 to 65+	6.11	4.91	3.76	2.87	2.12	1.88

Labour force (18-65)						
Total persons in labour force, of which	1,926,539	2,058,524	2,070,654	2,039,070	1,910,477	1,841,454
- DB members (private sector)	228,827	187,693	123,666	62,049	10,808	716
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	221,276	217,990	192,034	144,974	83,201	74,671
- RAC/PRSA holders	270,448	266,433	234,709	177,191	101,690	91,264
- Others	933,481	1,113,900	1,247,737	1,382,348	1,442,271	1,402,296
Total labour force earnings (18-65)	61,428,942	101,898,313	151,023,540	215,139,547	298,707,346	423,033,821

GNP						
Real GNP	134,735,009	190,875,531	240,728,234	292,702,592	340,505,311	405,468,039
Nominal GNP	141,003,960	243,502,166	374,353,000	554,858,922	786,831,274	1,142,131,388

Table 68

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,836	9,104,597	18,683,626	36,555,624	69,293,349	118,898,137
- as % of GNP	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Total pension payments for this system	4,359,433	10,711,291	21,980,736	43,006,616	81,521,587	139,880,161
- as % of GNP	3.1%	4.4%	5.9%	7.8%	10.4%	12.2%
Additional payments for this system (over 34%)	75,597	1,606,694	3,297,110	6,450,992	12,228,238	20,982,024
Tax revenues on additional payments	15,119	321,339	659,422	1,290,198	2,445,648	4,196,405
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%
Cost of unfunded pensions	75,597	1,462,989	2,393,914	3,262,180	3,278,603	2,295,060
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.1%	2.9%	3.4%	3.7%	3.8%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.7%	2.2%	2.6%	2.9%	2.9%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 68

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,410,040	2,435,022	2,446,886	-6,457,972	-25,441,448	-47,038,611
- as % of GNP	1.0%	1.0%	0.7%	-1.2%	-3.2%	-4.1%
Closing fund size	16,360,183	60,486,589	163,646,808	310,045,778	409,968,244	291,330,122
- as % of GNP	11.6%	24.8%	43.7%	55.9%	52.1%	25.5%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	989,115	1,026,355	1,489,410	1,728,129	1,355,964	1,801,842
Contributions - voluntary - employer	1,641,232	1,469,671	1,443,632	1,056,052	391,571	276,323
Contributions - voluntary - self-employed	1,310,128	965,115	1,927,501	2,894,284	2,990,106	4,372,184
Contributions - voluntary - Total	3,940,476	3,461,140	4,860,543	5,678,466	4,737,640	6,450,348
- as % of GNP	2.8%	1.4%	1.3%	1.0%	0.6%	0.6%
- as % of labour force earnings	6.4%	3.4%	3.2%	2.6%	1.6%	1.5%
Contributions - mandatory - employee	126,015	2,112,258	3,193,098	4,779,000	6,680,917	9,334,162
Contributions - mandatory - employer - private	121,474	2,019,839	2,883,580	4,050,314	5,612,760	7,771,935
Contributions - mandatory - employer - public	4,541	92,419	309,518	728,687	1,068,158	1,562,227
Contributions - mandatory - self-employed	121,797	2,184,425	3,364,657	4,747,195	6,398,778	9,097,165
Contributions - mandatory - Exchequer	97,295	1,663,807	2,420,008	3,387,656	4,652,928	6,479,652
Contributions - mandatory - Total	471,122	8,072,748	12,170,862	17,692,851	24,413,541	34,245,141
- as % of GNP	0.3%	3.3%	3.3%	3.2%	3.1%	3.0%
- as % of labour force earnings	0.8%	7.9%	8.1%	8.2%	8.2%	8.1%

Table 68

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	483,906	515,053	760,058	895,335	729,260	983,318
Tax relief - voluntary contribs - employer	205,154	183,709	180,454	132,007	48,946	34,540
Tax relief - voluntary contribs - self-employed	518,932	395,342	828,215	1,281,469	1,390,864	2,054,926
Tax relief - voluntary contribs - Total	1,207,992	1,094,105	1,768,726	2,308,810	2,169,069	3,072,784
- as % of GNP	0.9%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	82,964	1,446,121	2,308,047	3,544,243	4,935,967	6,988,936
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.6%	0.6%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,856,223	129,239,175	195,168,576	253,238,402	255,562,795	239,932,725
- as % of GNP	48.8%	53.1%	52.1%	45.6%	32.5%	21.0%
Assets in mandatory schemes (end of year)	308,936	35,012,830	138,636,593	326,528,765	607,440,282	951,880,579
- as % of GNP	0.2%	14.4%	37.0%	58.8%	77.2%	83.3%
Investment income on total assets	3,148,256	7,575,112	16,133,683	28,736,266	43,159,143	59,638,651
Tax foregone on investment income	629,651	1,515,022	3,226,737	5,747,253	8,631,829	11,927,730
- as % of GNP	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,134,787	2,198,794	4,970,891	9,934,058	15,980,357	16,575,045
Pensions in payment - from mandatory schemes	0	49,698	673,820	3,570,572	13,308,444	28,807,761
Pensions in payment - Total	1,134,787	2,248,492	5,644,711	13,504,630	29,288,801	45,382,805
Tax revenue from pensions in payment (total)	249,653	494,668	1,241,836	2,971,019	6,443,536	9,984,217
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.8%	0.9%

Table 68

Model	Model E - 10 year phase in
Immigration	Central (NPR)
Investment ret.	Higher (+0.5% p.a.)
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.7%	5.0%	6.6%	8.8%	10.4%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.6%	0.4%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.7%	2.3%	2.7%	3.0%	3.0%
NPRF	1.0%	1.0%	0.7%	-1.2%	-3.2%	-4.1%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	0.9%	0.9%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.9%	1.0%	1.1%	1.0%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.8%	-0.9%
Exchequer contribution to mandatory scheme	0.1%	0.7%	0.6%	0.6%	0.6%	0.6%
	2.6%	5.3%	7.0%	7.0%	6.8%	7.0%

Table 69

Model	Model E - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	845,656	880,726	785,004	725,036	726,578	676,848
15-64	2,732,451	2,813,867	2,862,869	2,777,088	2,563,292	2,445,022
65+	462,517	615,975	833,354	1,076,896	1,311,018	1,375,647
Total	4,040,624	4,310,568	4,481,226	4,579,021	4,600,888	4,497,517
65+ as % of total	11.4%	14.3%	18.6%	23.5%	28.5%	30.6%
Ratio of 15-64 to 65+	5.91	4.57	3.44	2.58	1.96	1.78
Labour force (18-65)						
Total persons in labour force, of which	1,847,766	1,880,306	1,854,674	1,780,046	1,643,166	1,554,585
- DB members (private sector)	221,722	178,736	115,497	56,192	9,356	654
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	211,455	202,699	173,982	127,952	69,710	59,505
- RAC/PRSA holders	258,445	247,743	212,644	156,385	85,201	72,728
- Others	883,636	978,620	1,080,043	1,167,010	1,206,392	1,149,190
Total labour force earnings (18-65)	59,180,771	92,970,578	134,686,207	188,211,115	257,621,566	357,344,737
GNP						
Real GNP	132,117,095	178,554,962	220,777,446	261,930,960	300,321,519	350,836,111
Nominal GNP	138,264,239	227,784,671	343,327,817	496,526,966	693,975,557	988,242,959

Table 69

Model	Model E - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,283,014	9,064,556	18,503,613	35,760,548	65,260,683	107,113,724
- as % of GNP	3.1%	4.0%	5.4%	7.2%	9.4%	10.8%
Total pension payments for this system	4,358,596	10,664,183	21,768,957	42,071,233	76,777,274	126,016,146
- as % of GNP	3.2%	4.7%	6.3%	8.5%	11.1%	12.8%
Additional payments for this system (over 34%)	75,583	1,599,628	3,265,343	6,310,685	11,516,591	18,902,422
Tax revenues on additional payments	15,117	319,926	653,069	1,262,137	2,303,318	3,780,484
- as % of GNP	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%
Cost of unfunded pensions	75,583	1,458,040	2,378,918	3,223,864	3,226,687	2,253,577
- as % of GNP	0.1%	0.6%	0.7%	0.6%	0.5%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	2.3%	3.1%	3.8%	4.2%	4.3%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.8%	2.5%	2.9%	3.3%	3.4%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 69

Model	Model E - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,382,642	2,277,847	2,177,426	-6,014,579	-20,718,561	-34,403,755
- as % of GNP	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.5%
Closing fund size	16,175,959	56,636,414	146,416,310	260,936,306	319,930,346	217,697,144
- as % of GNP	11.7%	24.9%	42.6%	52.6%	46.1%	22.0%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	957,560	975,159	1,354,167	1,484,145	1,124,648	1,477,082
Contributions - voluntary - employer	1,588,057	1,392,492	1,332,909	943,275	333,531	222,897
Contributions - voluntary - self-employed	1,259,120	903,017	1,706,257	2,428,029	2,469,242	3,581,270
Contributions - voluntary - Total	3,804,737	3,270,669	4,393,334	4,855,449	3,927,421	5,281,249
- as % of GNP	2.8%	1.4%	1.3%	1.0%	0.6%	0.5%
- as % of labour force earnings	6.4%	3.5%	3.3%	2.6%	1.5%	1.5%
Contributions - mandatory - employee	120,442	1,886,372	2,797,561	4,133,403	5,684,415	7,764,449
Contributions - mandatory - employer - private	115,901	1,793,953	2,488,043	3,404,716	4,616,257	6,202,222
Contributions - mandatory - employer - public	4,541	92,419	309,518	728,687	1,068,158	1,562,227
Contributions - mandatory - self-employed	115,911	1,941,313	2,902,883	4,011,368	5,277,535	7,257,912
Contributions - mandatory - Exchequer	92,713	1,472,600	2,079,488	2,845,392	3,814,805	5,139,873
Contributions - mandatory - Total	449,508	7,186,657	10,577,493	15,123,566	20,461,170	27,926,684
- as % of GNP	0.3%	3.2%	3.1%	3.0%	2.9%	2.8%
- as % of labour force earnings	0.8%	7.7%	7.9%	8.0%	7.9%	7.8%

Table 69

Model	Model E - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	468,855	488,949	689,225	765,998	604,062	806,041
Tax relief - voluntary contribs - employer	198,507	174,062	166,614	117,909	41,691	27,862
Tax relief - voluntary contribs - self-employed	499,124	368,520	728,410	1,068,172	1,147,157	1,683,197
Tax relief - voluntary contribs - Total	1,166,486	1,031,530	1,584,249	1,952,079	1,792,910	2,517,100
- as % of GNP	0.8%	0.5%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	79,368	1,293,632	2,027,923	3,093,153	4,245,766	5,878,870
- as % of GNP	0.1%	0.6%	0.6%	0.6%	0.6%	0.6%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	68,855,256	122,034,013	175,736,178	217,285,078	210,117,158	191,638,510
- as % of GNP	49.8%	53.6%	51.2%	43.8%	30.3%	19.4%
Assets in mandatory schemes (end of year)	292,971	30,952,290	116,974,448	264,076,841	473,316,023	726,407,703
- as % of GNP	0.2%	13.6%	34.1%	53.2%	68.2%	73.5%
Investment income on total assets	2,823,503	6,319,140	12,698,643	21,444,738	30,778,095	41,476,149
Tax foregone on investment income	564,701	1,263,828	2,539,729	4,288,948	6,155,619	8,295,230
- as % of GNP	0.4%	0.6%	0.7%	0.9%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,126,893	2,077,645	4,458,136	8,509,667	12,984,469	12,993,724
Pensions in payment - from mandatory schemes	0	45,213	593,621	2,983,593	10,072,458	20,591,241
Pensions in payment - Total	1,126,893	2,122,858	5,051,757	11,493,260	23,056,927	33,584,965
Tax revenue from pensions in payment (total)	247,916	467,029	1,111,387	2,528,517	5,072,524	7,388,692
- as % of GNP	0.2%	0.2%	0.3%	0.5%	0.7%	0.7%

Table 69

Model	Model E - 10 year phase in
Immigration	Zero net migration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.1%	4.0%	5.4%	7.2%	9.4%	10.8%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.7%	0.6%	0.5%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.8%	2.6%	3.0%	3.5%	3.6%
NPRF	1.0%	1.0%	0.6%	-1.2%	-3.0%	-3.5%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.0%	0.9%	0.8%
Pillar 2 - tax foregone on investment income	0.4%	0.6%	0.7%	0.9%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.5%	-0.7%	-0.7%
Exchequer contribution to mandatory scheme	0.1%	0.6%	0.6%	0.6%	0.5%	0.5%
	2.7%	5.6%	7.5%	7.6%	8.0%	8.4%

Table 70

Model	Model E - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Population						
0-14	879,094	1,072,766	1,105,870	1,058,765	1,124,736	1,173,950
15-64	2,902,383	3,376,459	3,722,168	3,990,932	4,013,376	4,045,350
65+	467,373	638,861	881,549	1,179,223	1,575,395	1,875,972
Total	4,248,851	5,088,086	5,709,588	6,228,921	6,713,506	7,095,272
65+ as % of total	11.0%	12.6%	15.4%	18.9%	23.5%	26.4%
Ratio of 15-64 to 65+	6.21	5.29	4.22	3.38	2.55	2.16
Labour force (18-65)						
Total persons in labour force, of which	1,979,472	2,310,168	2,465,867	2,582,991	2,587,970	2,612,820
- DB members (private sector)	233,445	195,395	131,552	68,086	13,143	910
- DB members (public sector)	272,507	272,507	272,507	272,507	272,507	272,507
- DC members	227,720	232,506	216,479	175,310	116,080	114,543
- RAC/PRSA holders	278,324	284,174	264,585	214,268	141,876	139,997
- Others	967,476	1,325,585	1,580,743	1,852,819	2,044,363	2,084,863
Total labour force earnings (18-65)	62,909,122	113,939,794	180,756,643	273,017,759	402,330,412	599,016,014
GNP						
Real GNP	136,460,812	210,499,284	281,325,384	363,663,410	450,614,260	562,400,973
Nominal GNP	142,810,060	268,536,419	437,485,042	689,375,130	1,041,268,317	1,584,183,566

Table 70

Model	Model E - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 1 pensions (€000)						
Total pension payments (34% of GAIE)	4,293,366	9,315,688	19,408,461	38,757,144	77,075,842	144,266,568
- as % of GNP	3.0%	3.5%	4.4%	5.6%	7.4%	9.1%
Total pension payments for this system	4,369,131	10,959,633	22,833,484	45,596,640	90,677,461	169,725,375
- as % of GNP	3.1%	4.1%	5.2%	6.6%	8.7%	10.7%
Additional payments for this system (over 34%)	75,765	1,643,945	3,425,023	6,839,496	13,601,619	25,458,806
Tax revenues on additional payments	15,153	328,789	685,005	1,367,899	2,720,324	5,091,761
- as % of GNP	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%
Cost of unfunded pensions	75,765	1,497,396	2,489,311	3,455,720	3,571,638	2,585,753
- as % of GNP	0.1%	0.6%	0.6%	0.5%	0.3%	0.2%

Public service pensions (€000)						
Gross cost	1,854,137	5,167,987	10,788,891	18,645,169	29,212,748	42,891,838
- as % of GNP	1.3%	1.9%	2.5%	2.7%	2.8%	2.7%
Tax revenues from pensions in payment	407,910	1,136,957	2,373,556	4,101,937	6,426,805	9,436,204
Net cost	1,446,227	4,031,030	8,415,335	14,543,232	22,785,943	33,455,633
- as % of GNP	1.0%	1.5%	1.9%	2.1%	2.2%	2.1%

PRSI receipts						
- as % of GNP	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table 70

Model	Model E - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
NPRF (€000)						
Net transfers to/(from) fund	1,428,101	2,685,364	3,370,490	-3,344,539	-22,451,747	-53,102,779
- as % of GNP	1.0%	1.0%	0.8%	-0.5%	-2.2%	-3.4%
Closing fund size	16,246,601	59,737,694	161,932,227	319,742,216	453,481,037	336,019,230
- as % of GNP	11.4%	22.2%	37.0%	46.4%	43.6%	21.2%

Pillar 2 - contributions (€000)						
Contributions - voluntary - employee	1,009,597	1,075,002	1,645,705	2,108,583	1,946,908	2,659,185
Contributions - voluntary - employer	1,675,624	1,535,815	1,559,197	1,199,563	516,114	412,082
Contributions - voluntary - self-employed	1,343,290	1,032,001	2,210,998	3,694,235	4,361,369	6,459,071
Contributions - voluntary - Total	4,028,511	3,642,818	5,415,901	7,002,381	6,824,391	9,530,338
- as % of GNP	2.8%	1.4%	1.2%	1.0%	0.7%	0.6%
- as % of labour force earnings	6.4%	3.2%	3.0%	2.6%	1.7%	1.6%
Contributions - mandatory - employee	129,667	2,419,555	3,927,694	6,176,418	9,182,552	13,560,261
Contributions - mandatory - employer - private	125,126	2,327,135	3,618,176	5,447,732	8,114,394	11,998,034
Contributions - mandatory - employer - public	4,541	92,419	309,518	728,687	1,068,158	1,562,227
Contributions - mandatory - self-employed	125,640	2,498,402	4,189,273	6,344,128	9,222,214	13,992,625
Contributions - mandatory - Exchequer	100,277	1,917,366	3,046,583	4,570,671	6,752,877	10,073,794
Contributions - mandatory - Total	485,250	9,254,877	15,091,244	23,267,636	34,340,194	51,186,941
- as % of GNP	0.3%	3.4%	3.4%	3.4%	3.3%	3.2%
- as % of labour force earnings	0.8%	8.1%	8.3%	8.5%	8.5%	8.5%

Table 70

Model	Model E - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Pillar 2 - tax relief on contributions (€000)						
Tax relief - voluntary contribs - employee	493,655	540,289	843,172	1,100,134	1,050,698	1,451,293
Tax relief - voluntary contribs - employer	209,453	191,977	194,900	149,945	64,514	51,510
Tax relief - voluntary contribs - self-employed	531,768	425,400	959,048	1,654,069	2,034,832	3,035,763
Tax relief - voluntary contribs - Total	1,234,875	1,157,665	1,997,119	2,904,149	3,150,044	4,538,566
- as % of GNP	0.9%	0.4%	0.5%	0.4%	0.3%	0.3%
Tax relief - mandatory contributions - Total	85,313	1,648,252	2,816,795	4,522,062	6,672,556	9,958,167
- as % of GNP	0.1%	0.6%	0.6%	0.7%	0.6%	0.6%

Pillar 2 - assets & investment income (€000)						
Assets in voluntary schemes (end of year)	69,091,054	126,328,965	189,360,087	251,940,154	272,321,723	282,393,262
- as % of GNP	48.4%	47.0%	43.3%	36.5%	26.2%	17.8%
Assets in mandatory schemes (end of year)	316,878	38,084,575	156,124,143	377,827,742	729,070,329	1,196,861,551
- as % of GNP	0.2%	14.2%	35.7%	54.8%	70.0%	75.6%
Investment income on total assets	2,829,290	6,808,932	15,116,184	28,337,840	45,470,157	67,051,710
Tax foregone on investment income	565,858	1,361,786	3,023,237	5,667,568	9,094,031	13,410,342
- as % of GNP	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%

Pillar 2 - pensions (€000)						
Pensions in payment - from voluntary schemes	1,124,795	2,073,832	4,533,387	8,986,342	14,916,547	16,705,072
Pensions in payment - from mandatory schemes	0	47,170	635,272	3,383,542	13,162,011	31,130,165
Pensions in payment - Total	1,124,795	2,121,003	5,168,659	12,369,883	28,078,558	47,835,236
Tax revenue from pensions in payment (total)	247,455	466,621	1,137,105	2,721,374	6,177,283	10,523,752
- as % of GNP	0.2%	0.2%	0.3%	0.4%	0.6%	0.7%

Table 70

Model	Model E - 10 year phase in
Immigration	Sustained high immigration
Investment ret.	Standard
Economic basis	Basis 1

	2006	2016	2026	2036	2046	2056
Overall net Exchequer cost (% of GNP)						
Pillar 1 pensions	3.0%	3.5%	4.4%	5.6%	7.4%	9.1%
Pillar 1 tax revenue from increased pensions	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Pillar 1 cost of unfunded increase in pension	0.1%	0.6%	0.6%	0.5%	0.3%	0.2%
PRSI revenues	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Public service pensions (net cost)	1.0%	1.5%	2.0%	2.2%	2.3%	2.2%
NPRF	1.0%	1.0%	0.8%	-0.5%	-2.2%	-3.4%
Pillar 2 - tax relief on contributions	0.9%	1.0%	1.1%	1.1%	0.9%	0.9%
Pillar 2 - tax foregone on investment income	0.4%	0.5%	0.7%	0.8%	0.9%	0.8%
Pillar 2 - tax revenue from pensions	-0.2%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Exchequer contribution to mandatory scheme	0.1%	0.7%	0.7%	0.7%	0.6%	0.6%
	2.6%	4.8%	6.1%	6.1%	5.6%	5.7%