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Society of Actuaries in Ireland and PublicPolicy.ie

Research report on the financial sustainability of the State Pension in Ireland

Prepared for:
Society of Actuaries in Ireland and PublicPolicy.ie

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1. PREFACE

Introduction

1.1. This report from Milliman, an actuarial consulting firm, was commissioned by the Society of Actuaries in Ireland and PublicPolicy.ie to analyse the sustainability of the State pension in Ireland.

1.2. This preface has been written by the Society of Actuaries in Ireland and PublicPolicy.ie.

Key conclusions

1.3. The researchers conclude that:

- The State pension system is unsustainable in its current form but there is no easy way to improve its sustainability – all of the possible options involve difficult policy choices.
- Increases in the retirement age should be part of the solution, if life expectancy continues to increase.
- Changing the approach to pension indexation appears the most promising option to contain the projected growth in pension outgo, but at the cost of reducing pension adequacy over time.
- If indexation is reduced, the reduction (in real terms) in the State pension could be offset by the introduction of a universal second pillar pension system. The impact on overall net Exchequer cost would depend on the financing arrangements for the second pillar system.
- A further option is to increase PRSI contribution rates, thereby allowing smaller cuts in benefits than would otherwise be the case.

1.4. The Society of Actuaries in Ireland and PublicPolicy.ie welcome the researchers' analysis as an insightful and valuable contribution to the public debate on this important issue.

1.5. The views expressed in this report are those of the researchers and should not be attributed to the Society of Actuaries in Ireland or PublicPolicy.ie.

2. EXECUTIVE SUMMARY

Background

2.1. This report explores the financial sustainability of the State Pension in Ireland, including an analysis of the key levers that could be used to improve its sustainability. It has been produced in response to the commentary from the OECD (as set out in its 2014 review of the Irish pension system) that *"Ireland faces challenges on the financial sustainability of its pension system as the population ages"*.

2.2. The Society of Actuaries in Ireland, with funding from PublicPolicy.ie, commissioned this analysis of the financial sustainability of the State pension system, with a view to informing debate and public policy decisions in this area.

Projections of the future cost of the State pension system

2.3. In Chapter 4 we summarise the State Pensions system as it currently operates and the projected future development of the cost of the system on an "as is" basis. We also set out our thoughts on the concept of sustainability in the context of the Irish State pensions system.

2.4. In the absence of any parameter changes, the State pension system is projected (by us and by others) to show considerable increases in pension outgo (as a percentage of GDP) over the coming 50 years and PRSI[1] receipts are projected to remain stable (as a percentage of GDP) over time.

2.5. On the basis of our central projection, as shown below, we find that the excess of outgo over income is projected to increase by over 2% of GDP within the next 30 years, rising by a further 1% of GDP in the following 20 years.

Table 1: Evolution of future excess pension outgo (% of GDP) based on Milliman model

	2015	2025	2035	2045	2055	2065
Projected outgo	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
Projected pension-related PRSI receipts	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Excess of outgo over income	2.6%	3.2%	3.8%	4.9%	5.9%	5.9%
Increase from starting point	–	0.6%	1.2%	2.3%	3.3%	3.3%

2.6. The projected development of the net Exchequer cost of providing State pensions raises serious questions about the long-term sustainability of the State pension system in its current design.

2.7. It is important to remember that any long-run projection of pension costs is very heavily dependent on the choice of assumptions. Throughout this report we provide financial projections the basis of our central set of assumptions as set out in Appendix B (with various individual levers or combinations of levers being flexed to investigate their impact on the projections). However, given the sensitivity of the projections to the choice of assumptions – particularly the population projections – we also show, in Appendix C, the corresponding projections on the basis of an alternative set of population assumptions.

Summary of options investigated

2.8. In Chapter 5 we examine the impact of using various levers to reduce the future projected State Pensions outgo and thereby make the system more sustainable.

2.9. We consider four possible levers to reduce the level of State pension outgo, as follows:

- Pensions amount – Reduce the amounts of the various pension benefits.
- Indexation – Reduce the rate at which pension amounts increase in future.
- Retirement age – Increase the age at which pension benefits first become payable.
- Eligibility rules – Reduce the proportion of the population eligible to receive benefits.

2.10. Based on our analysis we conclude that increases in the retirement age should be considered, but only provided life expectancy continues to increase. In addition, changing the approach to pension indexation appears the most

[1] Pay Related Social Insurance ("PRSI") contributions are paid by employees and employers (in respect of employees) to fund social insurance payments.

promising option in terms of containing the projected growth in pension outgo, but at the cost of reducing pension adequacy over time.

2.11. In addition to using the above levers to control benefit outgo, we note that it may be also be possible to increase PRSI contribution rates to some extent, thereby reducing the projected net cost to the Exchequer and allowing smaller cuts in benefits than would otherwise be the case.

2.12. Chapter 6 builds on Chapter 5 by looking at various options for reform by examining plausible combinations of the levers identified in Chapter 5. The details of the four combinations chosen for investigation are set out in Chapter 6 and the results are summarised in the following table.

Table 2: Projections of excess of pension outgo over contribution income for various combinations of levers (% of GDP)

	2015	2025	2035	2045	2055	2065
Projection on "as is" basis	2.6%	3.2%	3.8%	4.9%	5.9%	5.9%
C1 – Increase retirement age; CPI until 2040	2.6%	2.2%	1.9%	2.2%	2.7%	2.6%
C2 – Increase retirement age; avg. CPI, earnings	2.6%	2.7%	2.8%	3.0%	3.1%	2.6%
C3 – Increase retirement age; restrict eligibility	2.4%	2.9%	3.5%	4.3%	5.0%	4.8%
C4 – Increase both retirement age & PRSI	1.6%	2.2%	2.8%	3.6%	4.4%	4.1%

2.13. In our view, increases in retirement age (but only if life expectancy continues to lengthen) coupled with changing the approach to pension indexation provide the most credible approach. We note that it is difficult to significantly reduce the overall level of outgo without changing the pension amount in some way (either through a reduction to the headline amount or through the approach to pension increases).

2.14. Chapter 7 briefly examines other possible changes to the structure of the Irish State Pensions system as suggested by the OECD, including a move to a universal basic pension scheme for the entire population or a move to a single means-tested pension which is financed out of taxes.

2.15. Overall, we are not convinced that the advantages of a universal basic pension scheme (simplicity and efficiency) are sufficiently clear-cut to warrant what would be a major change in approach to the provision of pensions. There is also the possibility of introducing a universal basic pension at a lower level than the current State pension, in conjunction with a universal second pillar pension which deliver a combined pension similar to that provided by the current State pension system. The impact on the net Exchequer cost of this approach would depend on the sources of funding for the second pillar pension.

2.16. A move to a single means-tested pension would have the potential to significantly reduce pension expenditures in the long-term. However there are considerable practical difficulties with means testing and those who have paid PRSI contributions would need to be compensated for their payments.

Summary of our findings

2.17. A substantial unfunded pension outgo is projected to develop over time, which naturally leads to questions about the sustainability of the current system.

2.18. We examine several options for reforming the State pensions system including further increases in the retirement age, cuts in benefit levels (either in terms of the headline rate or the indexation rate), tightened eligibility criteria or increases in PRSI contributions. We also look at various combinations of these options. We conclude that it is difficult to have any meaningful impact on the projected State pension outgo without changing the approach to pension indexation or the pension amount. In addition, some increase in PRSI contributions could also help to reduce the overall net cost of pension provision.

Our conclusions

2.19. Our conclusion is that the State pension system is unsustainable in its current form but that there is no easy solution to improve its sustainability: all of the possible options involve difficult policy choices.

2.20. In our view, increases in the retirement age should be a part of the solution, but only provided life expectancy continues to increase. In addition, changing the approach to pension indexation appears the most promising option in terms of containing the projected growth in pension outgo, but at the cost of reducing pension adequacy over time. The reduction in the level of the State pension could, however, be offset by the introduction of a universal second

pillar pension system; the impact on the overall net Exchequer cost will then depend on the financing arrangements for the second pillar system.

2.21. In addition to using these two levers to control benefit outgo, it may be also be possible to increase PRSI contribution rates to some extent (thereby allowing smaller cuts in benefits than would otherwise be the case).

3. INTRODUCTION AND SCOPE

Introduction

3.1. Milliman Limited ("**Milliman**") has prepared this report for the Society of Actuaries in Ireland ("**the Society**") and PublicPolicy.ie on the financial sustainability of the State Pension in Ireland, including an analysis of the key levers that could be used to improve its sustainability.

Background to this report

3.2. In its 2014 review[2] of the Irish pension system ("**the OECD Review**"), the OECD stated that *"Ireland faces challenges on the financial sustainability of its pension system as the population ages"*.

3.3. The OECD Review recommended changing the parameters of the State Pensions system (e.g. retirement age, pension indexation etc.) in order to improve financial stability. The OECD Review also recommended that Ireland should consider structural change of the State pensions system and highlighted possible reform options, including the introduction of a universal basic pension scheme.

3.4. The Society, with funding from PublicPolicy.ie, decided to commission an analysis of the financial sustainability of the State Pension in Ireland, with the intention of publicising the key findings from this analysis in order to inform debate and public policy decisions in this area.

3.5. A Steering Group was appointed by the Society and PublicPolicy.ie to oversee our work. The members of the Steering Group were Donal de Buitléir, Aidan Kennedy, Anne Maher and Shane Wall.

Scope of this report

3.6. Following discussions with the Steering Group, it was agreed that the scope of our work would be as follows:

- To carry out research and produce a report on the financial sustainability of the Irish State Pensions system, including an analysis of the key levers.
- Provide recommendations, with reasons, as to which levers should be focused on in any reform of the State pensions system.
- In relation to the existing State pensions system, for each of the selected levers: set out a range of possible parameters; provide costings for each possibility; and, comment on the implications of each possibility for the Exchequer and for individual retirees. Within this analysis, show to what extent each lever would need to be flexed (if no other lever was flexed) in order to make the scheme sustainable, and comment on the credibility / practicability of such action.
- Set out costings of three coherent and credible combinations of levers, commenting on why the particular combinations were selected for analysis.
- Assuming the introduction of a universal basic pension scheme, discuss (in qualitative terms) the impact of moving from the current pension structure to a universal basic pension (in particular considering the advantages of simplifying the structure). Using the projections of the existing State pensions system, set out further costings and implications of revising the eligibility rules and pension amounts payable (which are the assumptions most likely to be impacted by a move to a universal basic pension scheme).
- Comment briefly on the challenges that could arise if a single means-tested pension were introduced, considering in particular the issues arising in transitioning from the current system to the means-tested system.

People involved and further contact

3.7. This report has been prepared by Michael Culligan and Aisling Barrett. Any queries or comments may be addressed to them at firstname.surname@milliman.com

Acknowledgements

3.8. The authors would like to acknowledge the invaluable assistance provided by the members of the Steering Group.

[2] OECD (2014), *OECD Reviews of Pensions Systems: Ireland*. Available at http://www.welfare.ie/en/downloads/OECD-Review-of-the-Irish-Pensions-System.pdf

Structure of this report

3.9. The remainder of this report is structured as follows:

- Chapter 4 sets out the background to the current Irish State Pensions system and summarises various projections of the future cost of the system on an "as is" basis.
- Chapter 5 examines the impact of using various levers to reduce the future projected State Pension outgo and thereby make the system more sustainable.
- Chapter 6 builds on Chapter 5 by looking at various options for reform by examining plausible combinations of the levers identified in Chapter 5.
- Chapter 7 briefly examines other possible changes to the structure of the Irish State Pensions system including, for example, a move to a Universal Basic State Pension or a move to means-testing.
- The Appendices provide more details on the pension benefits included in our projections, the methodology and assumptions used in our projections, and the results of projections using alternative assumptions.

Reliances & limitations

3.10. This report was based on data available to us at, or prior to, 20 August 2015, and takes no account of developments after that date. This report is covered by the terms of business set out in the letter of engagement between the Society and Milliman dated 14 April 2015.

3.11. This report is intended solely for educational purposes and presents information of a general nature. It is not intended to guide or determine any specific individual situation and persons should consult qualified professionals before taking specific actions. None of the authors, their employer, the Society nor PublicPolicy.ie shall have any responsibility or liability to any person or entity with respect to damages alleged to have been caused directly or indirectly by the content of this report.

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3.13. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. The assumptions we have used have, in our view, been made on the basis of reasonable hypotheses. It is certain, however, that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience. Such variations in experience could have a significant effect on the results and conclusions of this report. No warranty is given that the assumptions made in this report will be reflected in actual future experience.

3.14. In carrying out our work and producing this report, reliance has been placed upon, but not limited to, the following information:

- Population and Labour Force Projections 2016 – 2046 from the Central Statistics Office.
- EUROPOP13 population projections carried out by Eurostat.
- The 2015 Ageing Report – Underlying Assumptions and Projection Methodologies produced by the European Commission.
- The 2015 Ageing Report – Economic and budgetary projections for the 28 EU Member States (2013 – 2060) produced by the European Commission.
- 2015 Stability Programme Update from the Department of Finance.
- Actuarial Review of the Social Insurance Fund 2010 undertaken by KPMG on behalf of the Department of Social Protection.
- OECD (2014), OECD Reviews of Pensions Systems: Ireland.
- Statistical Information on Social Welfare Services 2013 produced by the Department of Social Protection.

4. BACKGROUND

Introduction

4.1. In this Chapter we summarise the State pensions system as it currently operates and the projected future development of the cost of pensions outgo. We also set out our thoughts on the concept of sustainability in the context of the Irish State pensions system.

The State Pensions system

4.2. The pension system in Ireland is summarised in the following quotation from the Pensions Green Paper (2007)[3]:

> *"The pensions system in Ireland comprises two main elements. The first is the State-run Social Welfare system and the second comprises voluntary supplementary pensions provided through a variety of arrangements and regulated by the State."*

4.3. The focus of this report is on the first of the two elements referenced above – the "State-run Social Welfare" pensions system – which we generally refer to in this report as the "**State Pensions system**". It is also sometimes referred to as the "**Pillar 1**" or "**first pillar**" pension (with the second element referenced above generally referred to as the "**Pillar 2**" or "**second pillar**" pension).

4.4. The Pensions Green Paper further explains that:

> *"There are two main strands of age-related pensions under the Social Welfare system - these are contributory pensions, which are based on social insurance and non-contributory pensions which are means-tested."*
>
> *"Social Welfare pensions are flat-rate payments with eligibility based on either achieving a particular level of social insurance contributions over a person's working life or through satisfying a means test. Means-tested payments are funded through taxation."*

4.5. More recently, the OECD Review summarised the State-run Social Welfare pensions system as follows:

> *"The public pension system in Ireland is a basic scheme which is mandatory for all private-sector workers. It can be complemented by voluntary private pension arrangements. The public system delivers two sorts of flat-rate benefits: 1) a basic flat-rate benefit to all retirees that meet the contribution conditions, the State pension (contributory) or SPC and the State pension (transition) or SPT; and 2) a means-tested benefit to those that have not contributed or have not contributed enough, the State pension (non-contributory) or SPNC.*
>
> *The State pension (contributory) is payable from age 66. … The pension age is scheduled to increase further to 67 years in 2021 and to 68 in 2028."*
>
> *The maximum personal rate of both the contributory and the transition pension is EUR 230.30 per week for a single person (paid for 52 weeks per year) for 2012, corresponding to 33.1% of average earnings (on the CSO Earnings and Labour Costs measure of average earnings).*
>
> *There is a supplement for an eligible dependant adult[4] living with the pensioner, as well as a number of allowances payable in certain circumstances. The State pension (non-contributory) or SPNC is currently payable from age 66. The eligibility age will increase in line with the State pension (contributory) age. The SPNC is paid at a slightly lower rate than the State pension (contributory); in 2012 the maximum rate of the SPNC was EUR 219 per week for a single person under the age of 80, i.e. 31.5% of average earnings (OECD definition). There are again supplements for dependant adults.*
>
> *…*
>
> *To get the minimum rate State pension (contributory), i.e. EUR 92/week from September 2012, a yearly average of ten full-rate contributions is needed. To get the maximum rate, i.e. EUR 230.3/week, an average of 48 full-rate contributions is instead required.*
>
> *The rate of State pension payment is calculated in line with individual contributions. Since September 2012, the benefit-contribution link has been tightened through the introduction of additional "rate bands" to reflect more closely the attachment to work and contributions made by each worker.*

[3] Department of Social and Family Affairs (2007), *Green Paper on Pensions*.
Available at: http://www.welfare.ie/en/downloads/greenpaper.pdf

[4] Or an eligible dependent child.

> …
>
> *Under the current calendar, a "total contributions approach" (TCA) will be introduced in 2020 to replace the current yearly averaging system. Under the new approach the amount of pensions paid will be closely related to the number of social insurance contributions and/or credits made over one's working life.*
>
> …
>
> *Pensions are usually increased on an annual basis, decided by the government in the context of the annual budget. There have been no increases since 2009, however, reflecting Ireland's bailout agreement with the Troika (EC, ECB, IMF) which specifies that the nominal value of the State pension will not be increased."*

4.6. The Irish State Pension operates on a pay-as-you-go ("**PAYG**") basis. In terms of the financing of the State Pensions system the OECD Review summarises the position as follows:

> *"The social insurance system insures nearly all workers in Ireland against a set of "contingencies" such as old age, illness, maternity and unemployment. The benefits, which are paid by the pay-as-you-go Social Insurance Fund (SIF), are financed out of the contributions made by employees, employers and the self-employed, with a subvention from the Exchequer to cover gaps between revenues and expenditures. . The contribution base rate is currently 14.75%, with 10.75% paid by employers and 4% by employees (except for employees who earn less than EUR 352 per week for whom only employer contributions are payable). There is no ceiling applied to either employers' or employees' contributions. The largest part of the Fund's spending is on pensions: these accounted for approximately 60% in 2012 and are expected to increase to 64% in 2013.*
>
> *The State pension (non-contributory) is financed through general taxation and is paid according to need (see Department of Social and Family Affairs, 2007). For workers who have made contributions to the State pension (contributory) scheme but end up receiving the non-contributory State pension, a transfer of the amount corresponding to their contributions is made from the SIF to the Exchequer."*

4.7. The OECD Review also mentions the initiative which was taken by the government in 2001 to establish a National Pensions Reserve Fund ("**NPRF**") with the objective of meeting some of the projected increases in the costs of the State Pensions system (and of public service occupational pensions) from 2025 onwards, thereby helping to insulate the financing of the two systems from the projected ageing of the population. The NPRF has, however, since been used for other purposes and it is now unclear if any of it will be allocated to funding the State Pensions system.[5]

4.8. The National Pensions Framework[6] published in 2010 stated that the Government is seeking to sustain the value of the SPC at 35% of average earnings (and that this would be supported through the Pay-Related Social Insurance ("**PRSI**") contribution system). The current maximum rate of the SPC is €230.30 per week. The level of National Average Earnings ("**NAE**") reported by the CSO for Q4 2014 was €702.06 per week. This means that the SPC currently stands at 33% of NAE. It is important to note, however, that although there is a stated policy to maintain the value of the SPC at 35% of average earnings, no guarantees have been provided to either current or future pensioners that this will always be the case.

4.9. In terms of retirement age, the National Pensions Framework also set out that the current retirement age of 66 will increase to 67 from 2021 and to 68 from 2028.

4.10. In February 2015 a Universal Retirement Savings Group was established by the Department of Social Protection to consider the introduction of a new, universal, supplementary workplace retirement saving scheme. This demonstrates that consideration is being given to implementing a Pillar 2 type universal pension system, which would complement the existing State (Pillar 1) system, as discussed in the OECD review (see paragraph 7.1 below). The Society had previously produced a position paper[7] in response to the OECD Review recommending the introduction of a mandatory earnings related pillar, over other alternatives, to increase pensions coverage in Ireland.

Projections of the future cost of the State Pension system

4.11. There have been many studies and reports in recent years examining the projected development of the future cost of pension payments under the State Pensions system, some of which are summarised in Table 3 below.

[5] €7.2 billion in the "discretionary portfolio" of the NPRF was transferred to the Ireland Strategic Investment Fund established on 22 December 2014. The remaining €15 billion in the "directed portfolio" of the NPRF will continue to be managed at the direction of the Minister for Finance (and is currently invested in Irish financial institutions).

[6] Department of Social and Family Affairs (2010), *National Pensions Framework.*
Available at: http://www.welfare.ie/en/downloads/nationalpensionsframework_en.pdf

[7] https://web.actuaries.ie/sites/default/files/story/2014/02/140206 Review of Policy Options to Expand Private Pensions Coverage in Ireland.pdf

Table 3: Projections of future State Pensions outgo (% GDP unless otherwise stated)

Year	National Pensions Review (2006) (Note 1)	Stability Programme Update 2012	Actuarial Review of the Social Insurance Fund (2012) (Note 2)	Stability Programme Update 2015
2015				
2016	3.7%		4.0%	
2020		4.6%	4.6%	5.5%
2026	4.9%			
2030		5.4%	5.0%	6.4%
2036	6.5%			
2040		6.4%	6.3%	7.4%
2046	8.7%			
2050		8.0%	7.8%	8.0%
2056	10.1%			
2060		8.6%	7.5%	7.0%

Notes:

(1) The figures in the NPR 2006 were expressed as a percentage of GNP rather than GDP and, therefore, appear higher than the projections from the other studies. In order to make a proper comparison against the other entries in the table, the NPR 2006 projections would need to be expressed as a percentage of GDP (which would make the projections appear far more consistent with the projections from the other studies).

(2) The Actuarial Review of the Social Insurance Fund has a narrower definition of pension outgo than the other studies referenced in the table. In particular it does not include the outgo in respect of the State Pension (Non-Contributory).

4.12. As can be seen from Table 3, the various studies and reports have all given somewhat different projections for the development of State pensions spending over the long term, due to different assumptions and/or different scope of the projections. However, all give a consistent message nonetheless – pension spending as a percentage of GDP is projected to increase steadily over time.

4.13. PRSI receipts will serve to pay for some of the projected pension outgo – the 2012 Actuarial Review[8] of the Social Insurance Fund ("**SIF**") projected a relatively stable level of total PRSI receipts over time of ca. 4.5% of GDP per annum. (PRSI receipts can be expected to remain relatively stable as a percentage of GDP in future projections as both the projected level of receipts and the projected development of GDP are essentially functions of the same variables.) Of course, not all of these PRSI receipts can be earmarked to pay pensions, as the Social Insurance Fund also finances other non-pension related Social Welfare benefits. The OECD Review noted that ca. 65% of the current spending of the Social Insurance Fund related to pension benefits. On that basis, pension-related PRSI receipts of ca. 3.0% of GDP per annum might be assumed.

4.14. We note also that, as shown in Table 4 below, the Department of Finance projects unemployment benefit expenditure to be 1% of GDP in the long term. Subtracting this from the PRSI receipts of 4.5% of GDP and allowing approximately 0.5% for the other non-pension related Social Welfare payments would also suggest that PRSI contributions of approximately 3.0% would be available to cover pension payments.

4.15. Accordingly, a substantial and growing unfunded element of overall pension outgo is projected to develop over time, which naturally leads to questions about the sustainability of the current system, especially against the backdrop of the new budgetary discipline brought by the EU's Excessive Deficit Procedure[9].

[8] KPMG (2012), *Actuarial Review of the Social Insurance Fund 31/12/2010, undertaken by KPMG on behalf of the Department of Social Protection.* Available at: http://www.welfare.ie/en/downloads/2010actuarialreview.pdf

[9] The European Commission's Excessive Deficit Procedure in the Stability and Growth Pact is a step-by-step approach for reining in excessive deficits and reducing excessive debts. The EU Treaty defines an excessive budget deficit as one greater than 3 % of GDP. Public debt is considered excessive under the Treaty if it exceeds 60% of GDP without diminishing at an adequate rate (defined as a decrease of the excess debt by 5% per year on average over three years).

Stability Programme Update 2015

4.16. The most recent projections of future pensions expenditure are set out in the April 2015 Update to Ireland's Stability Programme ("**SPU 2015**") published by the Department of Finance. Chapter 7 of SPU 2015 examines the "long-term sustainability of the public finances" and sets out the Department's projections for age-related expenditure as a percentage of GDP as shown in Table 4 below.

Table 4: Projections of age-related expenditure 2013-2060 (% of GDP)

	2013	2020	2030	2040	2050	2060
Total age-related expenditure [1-5]	**22.1%**	**22.9%**	**23.9%**	**24.6%**	**25.6%**	**23.9%**
1. Total pension expenditure	7.4%	8.0%	9.1%	10.0%	10.0%	8.4%
Social security pensions	5.5%	5.5%	6.4%	7.4%	8.0%	7.0%
Gross occupational pensions (Public Service)	1.8%	2.5%	2.7%	2.6%	2.0%	1.4%
2. Health care	6.0%	6.3%	6.9%	7.3%	7.3%	7.2%
3. Long-term care	0.7%	0.7%	0.9%	1.1%	1.3%	1.4%
4. Education expenditure	6.0%	6.4%	5.8%	5.2%	6.0%	5.9%
5. Other age-related expenditures (Unemployment benefit)	2.1%	1.5%	1.2%	1.0%	1.0%	1.0%

Source: Department of Finance ("Update to Ireland's Stability Programme" published in April 2015)

4.17. The projections contained in SPU 2015, and the assumptions on which they are based, are described in more detail in the chapter on Ireland in the EU's Ageing Report 2015 ("**AR15**"). The Ageing Report is produced every three years by the EU Economic Policy Committee and assesses the impact of population ageing on the public finances of the EU Member States.

4.18. The Department's commentary on the projections in SPU 2015 includes the following criticism of the population projections that the Department was forced to use for this exercise (due to the requirement to follow the prescribed EU-wide harmonised approach to developing population projections as set out in AR15):

> *"Ireland has significant reservations around the population projections used in this exercise, where a significant net negative outward migration out to 2037 is estimated by the Eurostat model for migration flows. Based on assumptions about future cyclicality of net migration, Ireland expects that net migration will close (and change sign) significantly more rapidly than is envisaged under the EUROPOP2013 projections. However, Eurostat has adopted for Ireland the same methodology used for other countries. Whilst an exception for the basis of population projections for Ireland was endorsed by the EPC on 1 April 2015 for future t+10 projection exercises (up to 2025), the impact of this agreement is not reflected in AR15 projections. As a result, any assessment of implied future policy challenges based on figures contained in the 2015 Ageing Report should reflect this concern."*

4.19. The Department's comments serve to emphasise the importance of the choice of population projections when it comes to producing long-term projections of pension outgo. We return to this point later in this Chapter when we compare our projection of future pension costs – which we have developed using a different population projection – with those in AR15.

Pension types included in the SPU 2015 projections

4.20. SPU 2015 notes that:

> *"The Ageing Report adopts a broad definition of pensions, which also includes schemes such as invalidity pension, illness benefit, disability allowance and carer's allowance."*

4.21. Our analysis is focussed on the social security pensions component of total pension expenditure as per SPU 2015 (i.e. the highlighted line in Table 4 above). Note that SPU 2015 / AR15 adopts a broad definition of social security pensions, including some non-age related pensions such as illness, disability & caring pensions.

4.22. For consistency with the approach adopted in SPU15 / AR15 we have included the following types of pensions in our analysis:

- The State Pension (Contributory) ("**SPC**").

- The State Pension (Non-Contributory) ("**SPNC**").
- Widow's, Widower's or Surviving Civil Partner's Pension (Contributory) ("**WPC**").
- Widow's, Widower's or Surviving Civil Partner's Pension (Non Contributory) ("**WPNC**").
- Illness, Disability & Caring Pensions as follows:
  - Disability Allowance.
  - Invalidity Pension.
  - Illness Benefit.
  - Carer's Allowance.
  - Blind Pension.

4.23. The State Pension (Transition) was paid from age 65 to 66 to people reaching age 65, who are retired and who satisfy certain social insurance conditions. This is no longer paid to people reaching age 65 from 1 January 2014 and has not been included in our analysis.

4.24. Each of the main types of pension included in our projections is described in more detail in Appendix A.

Our projection of future pension costs

4.25. We have undertaken our own projection of future pension costs. The methodology and assumptions we have used for projecting the future cost of the State Pensions system (as a percentage of GDP) is set out in Appendix B. In summary, we used a population model to project the future population structure and then applied coverage assumptions to the projected future population in order to determine the number of recipients of each pension type. Using the assumed average pension rates paid we projected the future expenditure on benefits. Pension rates were assumed to increase in line with real earnings growth, thus maintaining the value of the pension as a percentage of national average earnings.

4.26. Using our model, with methodology and assumptions as set out in Appendix B, we derived projections using assumptions consistent with those used in AR15 / SPU15 as shown in Table 5 below.

Table 5: Projections of future pension costs – AR15 basis (% of GDP)

	2015	2025	2035	2045	2055	2065
AR15 Social Security Pensions expenditure	5.5%	6.0%	6.9%	7.8%	7.7%	
Milliman model (AR15 basis)	5.5%	6.1%	7.0%	8.1%	8.5%	7.4%

4.27. As can be seen from Table 5, our projections align quite closely with the Department's projections until 2045 when the results diverge – our model does not project the costs to begin falling until after 2055, whereas the Department's projections indicate costs levelling out and falling slightly from ca. 2050 onwards. We have investigated the later years of the projections in detail but have not found a satisfactory explanation for the divergence. We have no reason to believe, however, that there are any errors in our projection model. It is worth noting in this regard that Table 29 in Appendix B below shows that the population projections used in both models are consistent.

4.28. Furthermore, given the reservations expressed by the Department of Finance about the population projections used in AR15 and SPU15 (see 4.18 above), which we agree with, we revised our model to use population projections based on one of the scenarios (termed "M1F2") provided by the Central Statistics Office ("**CSO**"). Our central projection of pension costs using the revised population figures is shown below.

Table 6: Projections of future pension costs – moving to CSO M1F2 population assumptions (% of GDP)

	2015	2025	2035	2045	2055	2065
Milliman model (AR15 basis)	5.5%	6.1%	7.0%	8.1%	8.5%	7.4%
Milliman model (revised population)	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%

4.29. The differences between the population projections are explained in more detail in Appendix B (see paragraphs 9.7 to 9.17).

4.30. As can be seen, the effect of moving from the AR15 population projections to the CSO M1F2 population projections is quite dramatic in the later years of the projection: using the CSO projections, the projected pension cost in 2055 is some 0.4 percentage points of GDP higher than is the case if we use the AR15 population projections, and some 1.2 percentage points higher than the Department's projections. Furthermore, using the CSO population projections results in projected pension costs in 2065 which are unchanged from those in 2055, compared to the situation under the AR15 approach where the projected cost is projected to fall by 1.1 percentage points over the decade in question.

4.31. This clearly illustrates the point that any long-run projection of pension costs – and any conclusions about the sustainability of the pensions system – is very heavily dependent on the choice of assumptions.

4.32. Throughout this report we provide financial projections for future pension outgo on the basis of our central set of assumptions (with various individual levers or combinations of levers being flexed to investigate their impact on the projections). However, given the sensitivity of the projections to the choice of assumptions – particularly the population projections – we also show, in Appendix C, the corresponding projections on the basis of the AR15 assumptions.

Sustainability

4.33. The OECD Review discusses the concept of the financial sustainability of pension systems as follows:

> *Financial sustainability of pension systems is even more controversial as a measure than adequacy. Various proposals have been put forward to assess and achieve sustainability, using for example the internal rate of return of pay-as-you-go financed pension systems (which in ageing societies become negative and could therefore be interpreted as unsustainable) or setting absolute limits to pension spending or limiting the size of employer and employee contributions going to pension systems to a "sustainable" level and adjusting spending accordingly. There is no agreed international benchmark, however, beyond which pension spending becomes unsustainable.*
>
> *What is usually targeted when discussing financial sustainability in the context of pension policy is the total cost of pensions, now and in the future. Whether taxpayers and contributors are willing and able to pay this cost is a matter of public choice. The same fiscal cost of pensions may be seen by voters as unsustainably large in some countries but acceptable in others. The financial crisis and its aftermath have added a consideration regarding the sustainability of pension systems which is particularly pertinent in the case of Ireland: the view of the international financial markets in assessing countries' capacity to service their debt. Not surprisingly, pension reforms are part of many austerity programmes and seen as a key element in reassuring markets that future commitments to pay back explicit and implicit public debt are credible.*
>
> *Financial sustainability is an obvious challenge in cases where benefits are financed on a pay-as-you-go (PAYG) basis. But it also applies to earnings-related schemes that are financed on a funded basis or are partially pre-funded. This group of schemes includes private DB schemes and public programmes with reserves. By contrast, with pure DC schemes – where benefits depend solely on the value of contributions and on the investment returns earned – financial sustainability is not an issue. At any point in time, the value of future pension liabilities is exactly the same as the value of the assets in the funds.*
>
> *The most logical approach to defining financial sustainability involves some form of long-term actuarial equilibrium. This means that the pension system is in balance over time: the stream of contributions and other revenues over a suitably long horizon (50-75 years) is enough to pay for projected benefits over that period. The majority of the approaches considered impose the condition that benefits should be financed by contributions on wages. While this has conventionally been the case, there is no reason why it should be so.*
>
> *It makes sense to consider the two flows separately. First, what is the profile of public expenditure on pensions over time? Secondly, should this be financed by contributions or general revenues? For example, there may be concerns that pension contributions levied on payrolls – effectively a tax on wages – may have negative effects on work incentives. It might make sense instead to finance benefits out of some other revenue source: consumption taxes, for example. Pensions are de facto a matter of tax and transfer policy: taxes, paid by all age groups, and transfers, paid to older people.*

4.34. In our view, in the context of the Irish State Pensions system, it makes sense to look at the projected excess of future pension outgo over projected future pension-related PRSI receipts. To the extent that this excess outgo is projected to increase very significantly from its current starting point, the system may then be said to be unsustainable.

4.35. In Table 7 we illustrate the projected evolution of the excess of future pension outgo over projected future pension-related PRSI receipts.

Table 7: Evolution of future excess pension outgo (% of GDP) based on Milliman model

	2015	2025	2035	2045	2055	2065
Projected outgo	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
Projected pension-related PRSI receipts	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Excess of outgo over income	2.6%	3.2%	3.8%	4.9%	5.9%	5.9%
Increase from starting point	–	0.6%	1.2%	2.3%	3.3%	3.3%

4.36. As can be seen from Table 7, on the basis of these projections, in 30 years' time the net Exchequer cost of the State pensions system is projected to be some 2.3% of GDP higher than it is today, with a further one percentage point increase projected thereafter.

4.37. We have not attempted to define a percentage at which the level of increase could be viewed as sustainable, since this is subjective and debatable. However these projections suggest to us that the State pensions system does not appear to be sustainable in its current form since the excess of outgo over income is projected to more than double in the next 40 years.

4.38. As noted in paragraph 3.13, long-term projections are inherently subject to a significant "expanding funnel of doubt" in their later years and are heavily dependent on the assumptions employed. For that reason, in addition to providing results in Chapter 5 and Chapter 6 on the basis of our chosen population projection, we also set out in Appendix C the results on the basis of the population projection used by the Department of Finance for its AR15 work.

Summary

4.39. In summary, in the absence of any parameter changes, the Irish State pension system is projected to show considerable increases in pension outgo over the coming 50 years when expressed as a percentage of GDP. On the other hand, absent any change to the PRSI rates, PRSI receipts are projected to remain stable (as a percentage of GDP) over time.

4.40. On the basis of our central projection, the result is that the excess of outgo over income is projected to increase by over 2% of GDP within the next 30 years, rising by a further 1% of GDP in the following 20 years.

4.41. This projected development of the net Exchequer cost of providing State pensions raises serious questions about the long-term sustainability of the State pension system in its current design.

4.42. In Chapter 5 we examine the impact of varying certain design parameters in isolation. In Chapter 6 we move on to explore the impact of some possible combinations of changes to those parameters.

5. OPTIONS FOR REFORM

Introduction

5.1. In this Chapter we provide recommendations, with reasons, as to which levers should be focused on in any reform of the State pensions system.

5.2. For each of the selected levers we set out a range of possible parameters; provide costings for each possibility; and, comment on the implications of each possibility for the Exchequer and for individual retirees. Within this analysis, we will show to what extent each lever would need to be flexed (if no other lever was flexed) in order to make the scheme sustainable, and comment on the credibility and practicability of such action.

Possible options

5.3. In terms of possible levers for reducing the projected level of State pension outgo, there are really just four possibilities, as follows:

- Pensions Amount – Reduce the amounts of the various pension benefits (i.e. cut the headline rates).
- Indexation – Reduce the rate at which pension amounts increase in future (e.g. link to price inflation rather than earnings inflation).
- Retirement Age – Increase the age at which pension benefits first become payable (e.g. in line with expected improvements in longevity).
- Eligibility rules – Reduce the proportion of the population eligible to receive benefits.

5.4. For completeness we have examined each of these levers below even if, in reality, some are highly unlikely to be implementable, at least in the normal course of events.

5.5. In relation to each lever we have set out below the costings resulting from each option, the implications for the Exchequer and for retirees. We have also commented on the extent to which each option would need to be applied in order to achieve sustainability.

5.6. In addition to these four levers – each of which impacts on the level of benefits paid – it is also possible to influence the net Exchequer cost by varying the level of contributions paid by workers/citizens. We also examine this fifth lever below.

Lever 1: Pensions amount

5.7. In our central projection (as set out in Table 6 above) one of the assumptions that we have made is that pension amounts will increase in future in line with earnings inflation. This is a standard assumption (and one which has generally been adopted in all other studies of future State pensions outgo) as it keeps the level of the State pension at a constant percentage of national average earnings.

5.8. In order to assess the impact of changing the pension amount, we applied a once-off reduction to the pensions amount as follows:

- Under option (a) we applied a once-off reduction of 10% to the level of the pension in 2040, before then linking the pension to earnings inflation once again thereafter.
- Under option (b) we applied a once-off reduction of 10% to the level of the pension immediately, and linked to earnings inflation thereafter.

5.9. The impact of these changes is shown in the table below:

Table 8: Projections of future pension outgo (as % of GDP) – Option 1

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
1a – Reduce pensions amount from 2040	5.6%	6.2%	6.8%	7.1%	8.0%	8.0%
1b – Reduce pensions amount immediately	5.0%	5.7%	6.3%	7.3%	8.2%	8.2%

5.10. The impact of these changes would be to reduce pensions outgo by 10% from the levels shown in the central projection. This change would, therefore, reduce the pension outgo and would, therefore, help to reduce the burden on the Exchequer.

5.11. The impact on retirees would be to reduce their income relative to those in the workforce. The table below shows the impact of each of the above options on the SPC expressed as a percentage of NAE.

Table 9: SPC as % of NAE under pensions amount options

	2015	2025	2035	2045	2055	2065
Milliman central projection	33%	33%	33%	33%	33%	33%
1a – Reduce pensions amount from 2040	33%	33%	33%	30%	30%	30%
1b – Reduce pensions amount immediately	30%	30%	30%	30%	30%	30%

5.12. However, we do not consider a significant once-off reduction in the pension amount to be a realistic option. For the SPC, retirees would have paid PRSI contributions over their working life so a reduction in the benefits received in return for those contributions would be strongly resisted.

5.13. It might be possible to phase the reduction in benefit over time, for example as a reduction of 1% per annum over ten years. (This approach is similar to Options 2c and 2d below). In practice this would mean that the increases applied to the pension amount would be lower than earnings growth for a period, rather than applying a reduction to the pension amount. We believe this is a more realistic approach.

5.14. In order to address the issues of sustainability put forward in the previous Chapter, a more severe cut in the pension amount would be required (using this lever in isolation) – perhaps something of the order of 25% rather than 10%. As stated above, we believe that this approach would be difficult to implement. We do not investigate this option further in this report.

Lever 2: Pensions indexation options

5.15. In our central projection we have assumed that the current pension amounts will increase in line with earnings inflation. As noted above, this is a standard assumption as it keeps the level of the State pension at a constant percentage of national average earnings.

5.16. In order to assess the impact of changing the indexation options we looked at four options:

- Under option (a) we reduced the pension indexation rate to the level of price inflation.
- Under option (b) we reduced the pension indexation rate to the average of the level of price inflation and earnings inflation. This means that pensions would increase by more than price inflation but not by as much as earnings inflation.
- Under option (c) we deferred the switch to price inflation until 2040. This means that pensions would increase in line with earnings growth until 2040 at which point pensions would continue to increase but only in line with price inflation.
- Under option (d) we applied the switch to price inflation until 2040 only. This means that pensions would increase in line with price inflation until 2040 at which point pensions would increase in line with earnings growth.

5.17. The impact of these changes is shown in the table below:

Table 10: Projections of future pension outgo (as % of GDP) – Option 2

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
2a – Index to prices	5.6%	5.2%	4.9%	4.9%	4.8%	4.1%
2b – Index to avg. of prices & earnings	5.6%	5.7%	5.8%	6.2%	6.5%	6.1%
2c – Index to prices from 2040	5.6%	6.2%	6.8%	7.2%	7.0%	6.0%
2d – Index to prices until 2040	5.6%	5.2%	4.9%	5.4%	6.1%	6.1%

5.18. These changes reduce the projected pensions outgo very significantly – the projected cost (as a % of GDP) reduces considerably over the next 50 years which would be a significant benefit to the Exchequer.

5.19. However, the impact on retirees would be to reduce their income relative to those in the workforce. The table below shows the impact of each of the above options on the SPC expressed as a percentage of NAE.

Table 11: SPC as % of NAE under various indexation options

	2015	2025	2035	2045	2055	2065
Milliman central projection	33%	33%	33%	33%	33%	33%
2a – Index to prices	33%	28%	24%	21%	18%	15%
2b – Index to avg. of prices & earnings	33%	30%	28%	26%	24%	22%
2c – Index to prices from 2040	33%	33%	33%	30%	26%	22%
2d – Index to prices until 2040	33%	28%	24%	23%	23%	23%

5.20. Table 11 clearly shows that all four of these options would have a very significant impact on the level of the SPC relative to NAE and would obviously represent a significant shift from the current policy of aiming to maintain the SPC at ca. 33% of NAE.

5.21. Whichever of these options is applied, there is a limit to the extent to which the real value of the State pension can be reduced. A floor of, say, 25% of NAE might be needed in this regard. However, introducing this floor would increase the projected outgo in the later years for all of the options investigated. For example, if we applied a floor of 25% of NAE to Option 2c, this would result in pension outgo of 6.8% of GDP in 2065 instead of 6.0%. However, if a Pillar 2 pension system is introduced that is mandatory, this could help restore the overall level of pension benefits to the original level of the SPC. Options 2b, 2c or 2d might be considered in these circumstances.

5.22. In terms of sustainability, adopting any of the options outlined above would put the State pensions system on a sustainable footing. Options 2b, 2c or 2d as outlined above would appear to be the most realistic of the four approaches. We have eliminated Option 2a as it leads to pensions that are very low compared with NAE.

Lever 3: Retirement Age

5.23. In our central projection we have assumed that the current retirement age of 66 will increase to 67 from 2021 and to 68 from 2028, in line with the National Pensions Framework provisions.

5.24. In order to assess the impact of further increasing the retirement age, we have looked at the following two options:

- Further increasing the retirement age to 69 in 2038 and by one year every ten years thereafter.
- Further increasing the retirement age to 69 in 2035 and by one year every seven years thereafter. This level of increase in retirement age is broadly in line with the expected improvements in longevity that underpin our projections.

5.25. The implied retirement ages used in the projections are shown in the table below.

Table 12: Option 3 – Retirement ages assumed in projections

	2015	2025	2035	2045	2055	2065
Milliman central projection	66	67	68	68	68	68
3a – Retirement age +1 year every 10 years	66	67	68	69	70	71
3b – Retirement age +1 year every 7 years	66	67	69	70	71	73

5.26. The impact of these changes is shown in the table below:

Table 13: Projections of future pension outgo (as % of GDP) – Option 3

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
3a – Retirement age +1 year every 10 years	5.6%	6.2%	6.8%	7.6%	8.4%	8.1%
3b – Retirement age +1 year every 7 years	5.6%	6.2%	6.5%	7.3%	8.1%	7.7%

5.27. These changes provide a reduction in cost from 2040 which would provide some relief to the Exchequer at a time when the cost is projected to be most burdensome. However, the impact, whilst material, is not as dramatic as seen under the various indexation options explored above (see Table 10).

5.28. As can be seen from Table 13 above, using this lever in isolation would not put the State pensions system on a sustainable footing. Option 3b – which is closer to mimicking the projected increases in life expectancies (see tables below) – still shows a significant projected increase (due to the increased numbers of recipients due to the ageing population).

5.29. Obviously this change would mean that people will be expected to work for longer and would clearly be unpopular and politically challenging to introduce. However, a precedent has already been set by the increases to the retirement age that were introduced as part of the National Pensions Framework, so increases in retirement age are an already accepted feature of the State pensions system. There would also be some practical issues – any decision to increase the retirement age would need to be announced with plenty of notice to give people plenty of time to plan accordingly.

5.30. The increases in retirement age outlined above are broadly in line with the projected improvements in longevity underlying the projections of pension outgo. If these projected longevity improvements did not materialise then no increase in retirement age would be needed.

5.31. The life expectancies from age 65 used in the projections are shown in the table below.

Table 14: Remaining life expectancies at age 65 assumed in our projections

	2015	2025	2035	2045	2055	2065
Males	16.3	18.3	19.8	21.0	22.3	23.6
		2.1	1.5	1.2	1.3	1.3
Females	19.8	21.5	22.8	23.9	25.2	26.4
		1.7	1.3	1.1	1.2	1.2

5.32. We have also calculated the expected pension payment period allowing for the remaining life expectancy at retirement age and the retirement ages assumed in each projection. These are shown in the table below.

Table 15: Projected payment periods

	2015	2025	2035	2045	2055	2065
Milliman central projection - Males	13.4	14.9	15.6	17.0	18.4	19.8
Milliman central projection - Females	17.8	18.7	19.1	20.3	21.6	22.9
Option 3a – Males	13.4	14.9	15.6	16.0	16.4	16.8
Option 3a – Females	17.8	18.7	19.1	19.3	19.6	19.9
Option 3b – Males	13.4	14.9	14.6	15.0	15.4	14.8
Option 3b – Females	17.8	18.7	18.1	18.3	18.6	17.9

5.33. As can be seen in Table 15 above, the projected payment periods for pensions are expected to increase significantly over time in the central projection, due to the longevity improvements expected. The adjustments to the retirement age under Options 3a and 3b mean that the pension payment periods would not increase as significantly. As stated above, the increase in retirement ages would not be necessary if the projected improvements in longevity did not materialise.

Lever 4: Eligibility rules

5.34. In our central projection we assume that the proportion of the population in receipt of the various pension types is as set out in Table 30 on page 32. We also make certain assumptions regarding the average level of each pension type that is payable to those in receipt of that pension (see Table 32 on page 33).

5.35. Clearly one way to reduce the projected future pension outgo is to reduce the proportion of the population who will receive a pension and/or to reduce the average level of pension payable to those in receipt. This can be achieved by altering the eligibility rules for receipt of the various pension types.

5.36. There are many ways in which the eligibility rules could be adjusted. One possibility – which is simply a "for example" – would be to no longer pay any State Pension to those earning more than €100,000 (in today's money).

5.37. On the basis of the income distribution statistics published by the Revenue Commissioners, approximately 5% of the working population earned in excess of €100,000 in 2012. So, in order to assess what the impact of revising the eligibility rules in this particular way would be, we have reduced the proportion of the population receiving the SPC by 5%.

5.38. The impact of this change is shown in the table below:

Table 16: Projections of future pension outgo (as % of GDP) – Option 4

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
4 – Restrict eligibility to SPC	5.4%	5.9%	6.5%	7.5%	8.5%	8.5%

5.39. This change provides a slight reduction in cost which would provide some modest relief to the Exchequer.

5.40. However, this particular example of a change to eligibility criteria would result in 5% of retirees, who have paid PRSI contributions, not receiving a State Pension (Contributory) and neither would they receive the means-tested non-contributory pension. It would therefore, completely remove the link between social insurance contributions and benefits for the people in question. (Of course, it is worth pointing out that this link is already very weak anyway for high earners – the social insurance system is highly redistributive.) Any change to eligibility criteria, whether this example or any other, is therefore likely to meet with considerable resistance. The introduction of a mandatory Pillar 2 pension system could assist in offsetting the impact of this restricted eligibility.

5.41. One other side-effect of restricting eligibility for the SPC would be that it would put further pressure on those many defined benefit occupational pension schemes that are integrated with the State pension system (whereby the benefits payable by the occupational scheme are reduced by the level of the SPC being paid to the employee). In a situation where the eligibility of employees to receive the SPC is reduced or removed, the liabilities of the occupational schemes would correspondingly increase.

5.42. As can be seen from Table 16 above, using this lever in isolation would require a very substantial revision to the eligibility criteria for pension benefits in order to put the State pensions system on a sustainable footing.

5.43. Another possible approach to eligibility rules could be to apply stricter eligibility criteria in order to receive full benefit entitlements (for example in terms of contributions paid). So the proportion qualifying for full pension would reduce and a higher proportion would get lower pensions. However those getting lower pensions are more likely to qualify for means-tested benefits.

Lever 5: Increased PRSI contributions

5.44. The four preceding levers have all focused on the amount of pension benefits payable. As an alternative to reducing benefits, it is also possible to contain the projected increases in the net cost to the Exchequer by increasing contributions.

5.45. As noted in paragraph 4.13 above, the 2012 Actuarial Review of the SIF projected a relatively stable level of total PRSI receipts over time of ca. 4.5% of GDP per annum. Therefore, in order to increase the overall PRSI receipts by 1% of GDP, PRSI contribution rates would need to increase by ca. 22% from their current levels; in order to increase the overall receipts by 2% of GDP, they would need to increase by ca. 44%. In simple terms, therefore, based on the figures in Table 7, using increased PRSI contributions to close the gap would require a ca. 20% increase in contribution rates over the next couple of decades and a further 25% increase thereafter.

5.46. A total increase of 45% would translate into the current Class A employee rate increasing from the current 4% to close to 6%, with the employer rate increasing from the current 10.75% to 15.6%. Clearly these would be very substantial increases.

Conclusions

5.47. In this Chapter we explored the possible levers which could be used to contain the projected increase in the net cost to the Exchequer of the State pension system. Our conclusion is that there is no easy option. All of the possible options - further increases in the retirement age, cuts in benefit levels (either in terms of the headline rate or the indexation rate), tightened eligibility criteria or increases in PRSI – involve difficult choices.

5.48. In our view, increases in the retirement age should be considered, but only provided life expectancy continues to increase. In addition, changing the approach to pension indexation appears the most promising option in terms of containing the projected growth in pension outgo, but at the cost of reducing pension adequacy over time.

5.49. In Chapter 6 we examine some possible combinations of options, focusing particularly on these two levers.

5.50. In addition to using these two levers to control benefit outgo, it may be also be possible to increase PRSI contribution rates to some extent (thereby allowing smaller cuts in benefits than would otherwise be the case).

6. COMBINATIONS OF OPTIONS

Introduction

6.1. In this section we set out the costings for the following four combinations of options:

Table 17: Combinations of options chosen for investigation

Combination 1 ("C1")	Option 3a – Increasing retirement age every 10 years & Option 2d – Indexation with price inflation until 2040
Combination 2 ("C2")	Option 3a – Increasing retirement age every 10 years & Option 2b – Indexation with average of price and earnings inflation
Combination 3 ("C3")	Option 3a – Increasing retirement age every 10 years & Option 4 – Restricting eligibility criteria
Combination 4 ("C4")	Option 3a – Increasing retirement age every 10 years & Option 5 – Increasing PRSI contributions

6.2. We have selected these combinations of options as we believe these are likely to be the most realistic possibilities in any reform of the State pensions system.

6.3. We have included Option 3a (increasing retirement age) in each combination as we feel this would be necessary to deal, at least partly, with the projected improvements in longevity. If these projected improvements in longevity do not materialise, then an increase in retirement age would not be necessary.

Combination 1 – Increasing retirement age & indexation with prices until 2040

6.4. This combination involves putting together Options 3a and 2d, as set out in Chapter 5. In other words, it explores the impact of increasing the retirement age to 69 in 2038 and by one year every ten thereafter, in combination with a move to indexing benefits in line with prices (rather than earnings) until 2040.

6.5. The projection of future pension outgo for this combination is shown in Table 18.

Table 18: Projections of future pension outgo (as % of GDP) – Combination 1

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
C1 – Increase retirement age; CPI until 2040	5.6%	5.2%	4.9%	5.2%	5.7%	5.6%

6.6. This combination produces a significant reduction in cost: pension outgo, as a percentage of GDP, is projected to fall over the coming decades before returning to close to the starting level of 5.6%.

6.7. However, the impact of the change to price indexation on the level of the pension income relative to NAE needs to be borne in mind when evaluating this combination. The impact on the SPC as a percentage of NAE is shown in the table below.

Table 19: SPC as % of NAE under Combination 1

	2015	2025	2035	2045	2055	2065
Milliman central projection	33%	33%	33%	33%	33%	33%
Combination 1 ("C1")	33%	28%	24%	23%	23%	23%

6.8. As noted in paragraph 5.21 above, introducing a floor of 25% of NAE would increase the projected level of outgo in the later years of the projection. Also, if a mandatory Pillar 2 pension system is introduced, this could help to maintain the overall level of pension benefits.

Combination 2 – Increasing retirement age & indexation with the average of prices & earnings

6.9. This combination involves putting together Options 3a and 2b, as set out in Chapter 5. In other words, it explores the impact of increasing the retirement age to 69 in 2038 and by one year every ten thereafter, in combination with an immediate move to indexing benefits in line with the average of prices and earnings (rather than just earnings).

6.10. The projection of future pension outgo for this combination is shown in Table 20.

Table 20: Projections of future pension outgo (as % of GDP) – Combination 2

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
C2 – Increase retirement age; avg. CPI, earnings	5.6%	5.7%	5.8%	6.0%	6.1%	5.6%

6.11. This combination produces a significant reduction in cost over time, with reductions starting immediately. Pension outgo, as a percentage of GDP, is projected to remain quite stable, with only a modest increase to a peak of 6.1% by 2055, before then falling back to the starting level of 5.6%.

6.12. Once again, however, the impact of the changed approach to indexation on the level of pension income as a percentage of NAE needs to be borne in mind. The table below shows the impact of this option on the SPC expressed as a percentage of NAE.

Table 21: SPC as % of NAE under Combination 2

	2015	2025	2035	2045	2055	2065
Milliman central projection	33%	33%	33%	33%	33%	33%
Combination 2 (“C2”)	33%	30%	28%	26%	24%	22%

6.13. As noted in paragraph 5.21 and 6.8 above, introducing a floor would reduce the impact on the NAE but increase the level of outgo. Introducing a mandatory Pillar 2 pension system could help maintain the overall level of benefits.

Combination 3 – Increasing retirement age & restricting eligibility rules

6.14. This combination involves putting together Options 3a and 4, as set out in Chapter 5. In other words, it explores the impact of increasing the retirement age to 69 in 2038 and by one year every ten thereafter, in combination with restricting the eligibility criteria (modelled as a 5% reduction in the proportion of the population receiving the SPC).

6.15. The projection of future pension outgo for this combination is shown in Table 22.

Table 22: Projections of future pension outgo (as % of GDP) – Combination 3

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
C3 – Increase retirement age; restrict eligibility	5.4%	5.9%	6.5%	7.3%	8.0%	7.8%

6.16. This combination produces a more moderate reduction in costs over time than is the case with the previous two combinations. There is still projected to be a very material increase in pension outgo (projected to peak at ca. 8.0% around 2055). This suggests that, in the absence of any change to the approach to pension indexation or the pension amount (or any increases in PRSI contributions), very significant changes to eligibility criteria would be required to have any meaningful impact on the projected State pension costs.

Combination 4 – Increasing retirement age & increasing PRSI contributions

6.17. This combination involves putting together Options 3a and 5, as set out in Chapter 5. In other words, it explores the impact of increasing the retirement age to 69 in 2038 and by one year in every ten thereafter, in combination with

increasing PRSI contributions by 22%, to give a 1% increase in PRSI receipts as a percentage of GDP (with all of the additional 1% assumed to be used to fund pensions).

6.18. The projection of future pension outgo for this combination is shown in Table 22.

Table 23: Projections of future pension outgo (as % of GDP) – Combination 4

	2015	2025	2035	2045	2055	2065
Milliman central projection	5.6%	6.2%	6.8%	7.9%	8.9%	8.9%
C4 – Increase both retirement age & PRSI	5.6%	6.2%	6.8%	7.6%	8.4%	8.1%

6.19. The costs shown above for C4 are the same as those shown for Option 3a in Chapter 4 since these are shown gross of PRSI contributions.

6.20. The table below shows the net pension outgo after PRSI contributions.

Table 24: Projections of future pension outgo (as % of GDP) net of PRSI contributions – Combination 4

	2015	2025	2035	2045	2055	2065
Milliman central projection	2.6%	3.2%	3.8%	4.9%	5.9%	5.9%
C4 – Increase both retirement age & PRSI	1.6%	2.2%	2.8%	3.6%	4.4%	4.1%

6.21. This projection gives a reasonable reduction in costs but, as for Combination 3, it is not as significant as the potential reduction in costs shown for Combinations 1 and 2. More significant increases in PRSI contributions would be needed to achieve the same reduction. This further highlights that it is difficult to achieve significant cost savings without changing the pension amount or the approach to pension increases.

Conclusions

6.22. In this Chapter we explored some possible combinations of levers which could be used to contain the projected increase in the net cost to the Exchequer of the State pension system. In our view, increases in retirement age (but only if life expectancy continues to lengthen) coupled with changing the approach to pension indexation provide the most credible possible approach.

6.23. One possible approach could be to switch to price indexation for a period of time (we modelled an approach which involved switching to price indexation until 2040) before then reverting to earnings indexation. Under this approach the actual future development of pension costs could be monitored over the coming years and, when the position is considered sustainable or when the level of pension as a percentage of NAE has reached a chosen floor level, then the switch back to earnings indexation could take place. The introduction of a mandatory Pillar 2 pension system could also help to maintain the overall level of pension benefits.

6.24. The increases in retirement age would only be necessary if life expectancies continue to lengthen. If life expectancies do not continue to increase, or increase at a slower rate than projected, then the increases in retirement age can be postponed as necessary. In addition to using these two levers to control benefit outgo, it would be also be possible to increase PRSI contribution rates to some extent (thereby allowing smaller cuts in benefits than would otherwise be the case). The increases in PRSI contribution rates that would be needed to generate an increase in overall PRSI receipts of 1% of GDP are set out in Chapter 5.

7. OTHER POSSIBLE STRUCTURAL CHANGES

Universal basic pension scheme

7.1. The OECD Review discussed the possible introduction of a Universal State Pension ("**USP**") as follows:

> *"Such a scheme would be based on residency requirements, provide a single flat-rate benefit and cover all of the Irish population, regardless of their life-time work or contribution status. Basic universal pension schemes exist in a number of OECD countries, for example in New Zealand, Denmark and the Netherlands. There are various ways in which such a basic pension could be financed: by taxes, by contributions or by a combination of the two."*
>
> *"Currently, the Irish system has a State pension (contributory) and a means-tested State pension (non-contributory) with little difference between the levels of the two benefits."*
>
> *"There is thus already a substantial overlap between contributory and non-contributory benefits for retirees and an only partial link between contributions and future benefits for active workers. This raises the question whether maintaining two parallel benefit schemes is the most efficient way to go for Ireland."*
>
> *"An alternative arrangement would be to introduce a basic flat-rate benefit for all Irish retirees."*
>
> *"In Ireland, a basic pension could be set at a modest level and complemented by a means-tested supplement for pensioners who have no other income sources such as occupational or private pensions or other assets. This supplement could either be paid in addition to the HBP or replace it by adding the cash value of the package onto the basic pension or award benefits in-kind as under the current system."*
>
> *"The means-test would also enable taking into account the impact of different living arrangements of pensioners, such as the higher poverty risk of older people living alone. Pensioners living in couples and receiving two full basic benefits could receive a couple-rate. The benefit could continue to be integrated with occupational pension provision, as is already the practice."*
>
> *"Financing of such a universal basic pension could be through general revenue as in New Zealand or through contributions as in the Netherlands."*
>
> *"It is important to remember, however, that in the countries mentioned above, the first pillar generally delivers only a part of the total retirement income and the public share is sometimes relatively small in the overall package. Apart from New Zealand[10], all other countries have additional mandatory or quasi-mandatory pension systems (either private or public) on top of the basic pension. The combination of private and pension schemes is thus a key element in the design of a pension scheme."*

7.2. The OECD Review, whilst setting out the possible advantages of a USP – notably increased efficiencies arising from a simplification of the current regime – does not define exactly what form such a USP might take. In particular, it does not specify the level of the pension, nor does it specify the funding details, nor does it specify the eligibility criteria. (It is important to recognise that even a so-called "universal" pension would likely require some eligibility criteria, such as a minimum period of residency in the State.)

7.3. Without knowing these details, it is impossible to project the extent to which the receipts and outgo for a USP would differ from those of the current system. However, it seems fair to say that, for any plausible design of the USP, the projected costs, over the longer term, are likely to follow closely the level and pattern that has been projected for the current State pension system. In the short term, there would be some – potentially material – increase in pension payments, as those currently ineligible for both the SPC and SPNC are brought into the net.

7.4. It is also worth noting that, given the need for some eligibility criteria to avoid abuses, the move to a USP would not necessarily mean the end of means testing (a point noted in the OECD Review) – those who do not qualify for the USP may require some form of social welfare payments in retirement, depending on their means.

7.5. Furthermore, although the OECD Review points to inefficiencies in the current approach, it is worth noting that any move to a USP would inevitably require transitional arrangements to be put in place for those who have already paid PRSI, thus complicating the system further for the foreseeable future.

7.6. One of the main consequences of moving to a USP would be to move from the current, largely social insurance based approach to one based on residency. The argument is sometimes made that this move would undermine the PRSI / SIF system, whereby the link between the payment of contributions and the receipt of benefits would be broken, with the result that PRSI contributions would then be viewed by contributors more as a tax than an insurance

[10] New Zealand has a second pillar KiwiSaver scheme which is a voluntary, work-based savings scheme with auto-enrolment for new employees.

payment. In our view, however, the current PRSI contributions are already viewed by a large proportion of the population as a form of taxation rather than insurance premiums, and no distinction between the two is generally made. In our view, provided the financing mechanism for the USP did not involve any major departure from the current PRSI system (in terms of contribution rates etc.), then a financing mechanism based on general taxation should be considered.

7.7. Some other issues that would arise with the move to a residency-based USP include:

- Administrative procedures would need to be put in place to record and validate people's residency status on an ongoing basis.
- The incentive for older people to remain in the labour force would be reduced.

7.8. In summary, moving to a USP would bring the following advantages:

- Simplify the system by providing a single, simple, universal benefit. (Although this simplification would only come over time, once the transitional measures have expired.)
- Simplify the associated administration (although, again, there would likely be more complexity in the short term due to transitional arrangements and there would also be a need to put in place some form of residency monitoring).
- Address some of the issues with the current system in relation to the benefits that are payable to individuals with different contribution histories and patterns, and help to ensure a more equitable and consistent treatment for all.

7.9. The disadvantages include:

- Likely increasing the pension benefits payable in the short term (as those currently excluded are brought into the net). (In the medium to longer-term there should, depending on the design of the USP, be no material difference between the projected pension payments under the current system and those under a USP.)
- Weakening the link between contributions and pensions.
- Providing disincentives for older workers to remain in the workforce.
- Possible pressure on defined benefit occupational pension schemes that are integrated with the State pension system where benefits payable by the occupational scheme are reduced by the level of the SPC being paid to the employee.

7.10. Overall, whilst we are not persuaded by the argument against introducing a USP on the grounds that it would weaken the link between contributions and pensions (and that PRSI would then be seen more as a tax), we are not convinced that the advantages of a USP (simplicity and efficiency) are sufficiently clear-cut to warrant what would be a major change in approach to the provision of pensions.

7.11. In any case, for any plausible USP design, the likely net Exchequer cost of providing pensions is likely to follow closely the projected costs for the current system, at least in the medium to longer term.

7.12. There is also the possibility of introducing a USP at a lower level than the current State pension, in conjunction with a universal second pillar pension which deliver a combined pension similar to that provided by the current State pension system. The impact on the net Exchequer cost of this approach would depend on the sources of funding for the second pillar pension.

Single means-tested pension

7.13. The OECD Review also discussed the possible introduction of a single means-tested pension which is financed out of taxes.

7.14. A move to a single means-tested pension would be a major change in approach and is at the other end of the spectrum of possible approaches (compared to the introduction of a USP).

7.15. The main advantage of a single means-tested pension would be to reduce – in the long term – the net cost to the Exchequer of pension provision. The extent of the reduction would depend on the level at which the qualifying criteria are set. In the meantime, transitional measures would be needed to pay "accrued benefits" to those who have made PRSI contributions.

7.16. The main disadvantage is that it would introduce disincentives to save for retirement (whether through an occupational pension scheme or more generally). In addition, there are considerable practical difficulties with means testing, including the question of whether you test on the basis of assets or income or both; and, whether the test is

carried out solely at retirement or on an ongoing basis. The treatment of overseas pensioners would also need to be carefully considered. In addition, it would represent a complete reversal of the long-standing policy to move eligibility for State pensions from a means-tested to a contributory (social insurance) basis.

7.17. As noted above, there would also be transition issues with such a move, as those who have paid PRSI contributions would need to be compensated for their payments. In the long-term, however, a move to a single means-tested pension would have the potential to significantly reduce pension expenditures.

8. APPENDIX A: DESCRIPTION OF MAIN PENSION TYPES

Introduction

8.1. This Appendix summarises the main types of pension included in our projections of future outgo under the State pensions system.

State Pension (Contributory)

8.2. The State Pension (Contributory) ("**SPC**") is a payment made to people age 66 or over who satisfy certain social insurance contribution conditions. The pension rate is not means tested or affected by other income. The pension rates depend on the number of PRSI contributions made and are set out below.

Table 25: Current State Pension (Contributory) rates

Yearly average PRSI contributions	Personal rate per week	Increase for a Qualified Adult (under 66)	Increase for a Qualified Adult (over 66)
48 or over	€230.30	€153.50	€206.30
40-47	€225.80	€146.00	€196.00
30-39	€207.00	€139.00	€186.00
20-29	€196.00	€130.00	€175.00
15-19	€150.00	€100.00	€134.00
10-14	€92.00	€61.00	€83.00

Source: Department of Social Protection - State Pension (Contributory) from 1 January 2015

8.3. A means-tested increase in the payment is paid for an adult dependent ("Qualified Adult") as shown above or a child dependent ("Qualified Child") of €29.80.

8.4. An Over 80 allowance of €10 per week is paid on reaching 80 years of age. A Living Alone Increase of €9 per week is paid to people living alone.

8.5. The SPC is payable from age 66. The pension age is scheduled to increase further to 67 years in 2021 and to 68 in 2028.

8.6. The SPC is part of the benefits paid by the pay-as-you-go Social Insurance Fund. These are financed out of the contributions made by employees, employers and the self-employed, with a subvention from the Exchequer to cover gaps between revenues and expenditures.

8.7. A "total contributions approach" will be introduced in 2020 to replace the current yearly averaging system as part of the National Pensions Framework. Under the new approach the amount of pensions paid will be more closely related to the number of social insurance contributions and/or credits made over one's working life.

State Pension (Non-Contributory)

8.8. The State Pension (Non-Contributory) ("**SPNC**") is a means-tested payment for people aged 66 or over who do not qualify for State Pension (Contributory) based on their social insurance record. The pension rate is €219 per week.

8.9. A means-tested increase in the payment is paid for a Qualified Adult of €144.70 or a Qualified Child of €29.80.

8.10. The Over 80 allowance of €10 per week and the Living Alone Increase of €9 per week are also payable under the SPNC.

8.11. The SPNC is payable from age 66. The pension age is scheduled to increase further to 67 years in 2021 and to 68 in 2028.

8.12. The SPNC is financed through general taxation and is paid according to need.

Widow's, Widower's or Surviving Civil Partner's Pension (Contributory)

8.13. The Widow's, Widower's or Surviving Civil Partner's (Contributory) Pension or "**WPC**" is a payment made to the husband, wife or civil partner of a deceased person if the husband, wife or surviving civil partner or the deceased

person has paid sufficient social insurance contributions. The pension rate is €193.50 for those under age 66 and €230.30 for those over age 66.

8.14. A means-tested increase in the payment is paid for a Qualified Child of €29.80.

8.15. The Over 80 allowance of €10 per week and the Living Alone Increase of €9 per week are also payable under the WPC.

Widow's, Widower's or Surviving Civil Partner's Pension (Non Contributory)

8.16. The Widow's, Widower's or Surviving Civil Partner's Pension (Non Contributory) or "**WPNC**" is a means-tested payment payable to a widow, widower or surviving civil partner who does not qualify for a contributory widow's, widower's or surviving civil partner's payment.. The pension rate is €188 per week.

8.17. On reaching 66 years of age the pensioner transfers to the State Pension (Non-Contributory) scheme.

Illness, Disability & Caring Pensions

8.18. Disability Allowance is a means-tested payment made to people aged between 16 and 66 that have an injury, illness or disability which is expected to last more than a year. On reaching 66 years of age, recipients are assessed for a State pension. The pension rate is €188 per week with an additional €124.80 for a Qualified Adult and €29.80 for a Qualified Child.

8.19. Invalidity Pension is a social insurance payment paid to people who cannot work because of a long-term illness or disability that satisfy certain social insurance contribution conditions. Recipients of Invalidity Pension aged 66 years or over, since 2006, are automatically transferred to the SPC on reaching that age threshold. The pension rate is €193.50 per week with an additional €138.10 for a Qualified Adult and €29.80 for a Qualified Child.

8.20. Illness Benefit is a payment made to people under 66 who are unable to work because of illness who satisfy certain social insurance contribution conditions. The pension rate depends on weekly earnings. The maximum rate is €188 per week with an additional €124.80 for a Qualified Adult and €29.80 for a Qualified Child. On reaching 66 years of age, recipients are assessed for a State pension.

8.21. Carer's Allowance is a means-tested payment to people aged 18 or over on low incomes who are caring for an incapacitated person. The maximum weekly rate for those under age 66 caring for one person is €204 and for those caring for two or more people is €306. The rate for those over age 66 caring for one person is €239 and for those caring for two or more people is €358.50. An increase in the payment is paid for a Qualified Child of €29.80.

8.22. Blind Pension is a means tested payment paid to blind and visually impaired people aged between 18 and 66. The maximum rate is €188 per week with an additional €124.80 for a Qualified Adult and €29.80 for a Qualified Child. Recipients of the Blind Pension have, since 2006, transferred to State Pension (Non-Contributory) upon reaching 66 years of age.

9. APPENDIX B: PROJECTION METHDOLOGY & ASSUMPTIONS

Introduction

9.1. This Appendix sets out the methodology and assumptions we have used to project future State Pension costs as a percentage of GDP.

Methodology

9.2. We used a population model to project the future population structure from 2015-2065 split by age and sex.

9.3. We applied coverage assumptions to the projected future population in order to determine the number of recipients of each pension type.

9.4. Using the assumed average pension rates paid we projected the future expenditure on benefits. Pension rates were assumed to increase in line with real earnings growth.

9.5. We projected the expected level of real GDP and expressed the pension costs as a percentage of the GDP.

Assumptions: Sources

9.6. The assumptions used in our projections were derived from a range of sources including:

- the Ageing Report 2015 ("**AR15**").
- the Population and Labour Force Projections, 2016-2046 produced by the Central Statistics Office ("**CSO**") based on the 2011 census results.
- the most recent Actuarial Review of the Social Insurance Fund (produced in June 2012 based on 31 December 2010).
- the Statistical Information on Social Welfare Services 2013 report by the Department of Social Protection ("**DSP**").

Assumptions: Population projections

9.7. The population projections used in our central projection are based on the CSO 2011-2046 population projections. We used our own model (which replicates the CSO projections very closely up to 2046) and extended the mortality, fertility and migration assumptions used by the CSO to project the population for the years 2047-2065 (these projections are shown in italics below to reflect this).

9.8. A summary of the CSO population figures is shown below.

Table 26: Population projection based on CSO M1F2 2016-2046 projection (000s)

	2015	2025	2035	2045	*2055*	*2065*
0-19	1,327	1,387	1,321	1,454	*1,597*	*1,590*
20-64	2,728	2,970	3,321	3,490	*3,705*	*4,038*
65+	605	833	1,115	1,419	*1,603*	*1,727*
Total	**4,659**	**5,190**	**5,756**	**6,363**	***6,904***	***7,356***
0-19	28%	27%	23%	23%	*23%*	*22%*
20-64	59%	57%	58%	55%	*54%*	*55%*
65+	13%	16%	19%	22%	*23%*	*23%*
Pensioner Support Ratio	4.51	3.56	2.98	2.46	*2.31*	*2.34*
Total Support Ratio	1.41	1.34	1.36	1.21	*1.16*	*1.22*

Source: Scenario M1F2 from CSO Population Projections 2016-2046, extended to cover period 2014-2065 by authors

9.9. We chose the M1F2 version of the CSO 2011-2046 population projections because these were closest to (but not exactly the same as) the population projections used in the most recent Actuarial Review of the SIF. (The actual

population projections used in the Actuarial Review of the SIF were those from the 2012 Ageing Report with some adjustments made.)

9.10. We updated the CSO population projections to use the 2013 figures from AR15 as the starting point.

9.11. A summary of the projected population figures used in our central projections is shown below.

Table 27: Population projection used in Milliman central projection (000s)

	2015	2025	2035	2045	2055	2065
0-19	1,315	1,378	1,326	1,461	1,598	1,602
20-64	2,729	2,971	3,312	3,478	3,679	4,020
65+	604	834	1,112	1,420	1,621	1,739
Total	**4,648**	**5,183**	**5,751**	**6,359**	**6,898**	**7,361**
0-19	28%	27%	23%	23%	23%	22%
20-64	59%	57%	58%	55%	53%	55%
65+	13%	16%	19%	22%	23%	24%
Pensioner Support Ratio	4.52	3.56	2.98	2.45	2.27	2.31
Total Support Ratio	1.42	1.34	1.36	1.21	1.14	1.20

9.12. As discussed in Chapter 4, we did not use the population projections from AR15 given the reservations expressed about these projections by the Department of Finance. A summary of the AR15 projected population figures is shown below.

Table 28: Population projection used in 2015 Ageing Report ("AR15") (000s)

	2015	2025	2035	2045	2055	2065
0-19	1,305	1,247	1,076	1,155	1,303	1,323
20-64	2,704	2,558	2,542	2,487	2,601	2,951
65+	594	771	971	1,172	1,206	1,097
Total	**4,603**	**4,576**	**4,590**	**4,814**	**5,110**	**5,372**
0-19	28%	27%	23%	24%	26%	25%
20-64	59%	56%	55%	52%	51%	55%
65+	13%	17%	21%	24%	24%	20%
Pensioner Support Ratio	4.55	3.32	2.62	2.12	2.16	2.69
Total Support Ratio	1.42	1.27	1.24	1.07	1.04	1.22

9.13. The main difference between the two sets of population projections is that the model used for AR15 projects outward migration until 2037. However the Department of Finance stated (see paragraph 4.18 above) that it expects migration to change more rapidly from outward to inward. The CSO projections project migration to change from outward to inward by 2016.

9.14. Another source of difference relates to the projected mortality improvements. The CSO's mortality projections incorporate a stronger level of mortality improvements than the AR15 projections. The projected fertility rates also have some impact.

9.15. A comparison of the population projections is shown below.

Table 29: Comparison of population projections (000s)

	2015	2025	2035	2045	2055	2065
CSO M1F2 projection[11]	4,659	5,190	5,756	6,363	*6,904*	*7,356*
Milliman central projection	4,648	5,183	5,751	6,359	6,898	7,361
- Move to AR15 mortality	4,646	5,165	5,712	6,302	6,821	7,257
- Move to AR15 migration	4,614	4,653	4,818	5,212	5,516	5,811
- Move to AR15 fertility	4,609	4,594	4,629	4,870	5,183	5,442
AR15 projection	4,603	4,576	4,590	4,814	5,110	5,372

9.16. The last two rows shown ("Move to AR15 fertility" and "AR15 projection") differ only due to the difference between the population actually used in AR15 and the Milliman model used to recreate the population projection. As can be seen, the differences between these two rows are not material.

9.17. As can be seen from Table 29, the two population projections result in dramatically different projected population levels over the longer term. The total population in 2065 is projected to be 7.36 million people using the CSO basis, compared with 5.37 million people using the AR15 basis, with the vast majority of the 2 million difference due to the cumulative impact of the differing migration assumptions.

Assumptions: Population coverage

9.18. Our projections are based on assumed percentages of the population in receipt of various pension types.

9.19. The percentages assumed in 2013 are taken from the DSP report. The expected percentages by 2065 are based on information provided by the DSP for previous work. We have interpolated between the two rates to determine the percentage assumed for each year between 2013 and 2065.

Table 30: Percentage of the retirement age population in receipt of various pension types

	2013	2065
Males		
State Pension (Contributory)	81.2%	95.5%
Widow's, Widower's or Surviving Civil Partner's Pension (Contributory)	3.1%	0.5%
State Pension (Non-Contributory)	13.7%	2.0%
No State Pension	2.0%	2.0%
Females		
State Pension (Contributory)	40.1%	84.0%
Widow's, Widower's or Surviving Civil Partner's Pension (Contributory)	26.8%	12.0%
State Pension (Non-Contributory)	20.9%	2.0%
No State Pension	12.2%	2.0%

9.20. The above tables shows the percentages applied to the retirement age population. The retirement age is 66 and is projected to increase to 67 from 2021 and 68 from 2028.

9.21. For the other pension types projected, the percentages assumed vary by age and are also taken from the Statistical Information on Social Welfare Services 2013 report by the DSP. These percentages are not projected to change over time.

[11] The CSO projections only extended to 2046. The figures for 2046 onwards were developed by Milliman using the same methodology and assumptions as employed by the CSO.

Table 31: Percentage of the total population in receipt of various pension types

	Widow's, Widower's or Surviving Civil Partner's Pension (Contributory)		Widow's, Widower's or Surviving Civil Partner's Pension (Non-Contributory)		Illness, Disability & Caring Pensions	
Age	Males	Females	Males	Females	Males	Females
Under 25 years	0.00%	0.00%	0.00%	0.00%	0.95%	0.72%
25 to 29 years	0.00%	0.02%	0.00%	0.00%	3.77%	4.04%
30 to 34 years	0.02%	0.10%	0.00%	0.00%	4.18%	5.64%
35 to 39 years	0.10%	0.28%	0.00%	0.00%	6.32%	7.79%
40 to 44 years	0.21%	0.60%	0.00%	0.02%	6.54%	10.34%
45 to 49 years	0.42%	1.25%	0.02%	0.06%	8.43%	12.34%
50 to 54 years	0.92%	2.50%	0.03%	0.16%	10.72%	14.66%
55 to 59 years	1.73%	4.57%	0.05%	0.28%	14.76%	17.79%
60 to 64 years	2.79%	7.94%	0.09%	0.56%	23.90%	24.06%
65 years	2.86%	9.67%	0.12%	0.67%	23.90%	24.06%
66+ years	(as shown above)		0.00%	0.00%	1.20%	2.60%

9.22. With the exception of carer's allowance, all payments of illness, disability and caring pensions cease at age 66 (when recipients are assessed for a state pension). We have increased this age to 67 from 2021 and 68 from 2028 in line with the retirement age.

Assumptions: Average pension rates

9.23. Our projections use assumed average pension rates for each pension type. The averages are calculated from the Statistical Information on Social Welfare Services 2013 report by the DSP.

Table 32: Average weekly pension rate paid to recipients of various pension types

	Under age 66	Age 66+
State Pension (Contributory)	-	€233
Widow's, Widower's or Surviving Civil Partner's Pension (Contributory)	€194	€220
State Pension (Non-Contributory)	-	€190
Widow's, Widower's or Surviving Civil Partner's Pension (Non-Contributory)	€180	
Illness, Disability & Caring Pensions	€212	€212

9.24. The above amounts include living alone allowance, over 80 allowances, qualified adult and qualified child allowances where applicable.

9.25. For the SPC we have determined that the average rate paid in 2013 shown above represents 86% of the maximum amount payable (allowing for the proportion in receipt of qualified adult and child allowances).

9.26. In 2020 we expect a reduction in the pension rates paid for contributory pensions. This is to reflect the planned change to a "total contributions approach" in 2020 as set out in the National Pensions Framework. The reduction to the pension rate payable is consistent with that assumed in the most recent Actuarial Review of the Social Insurance Fund. We are assuming that the pension rate paid will return to the 2013 levels shown above (increased for earnings growth) by 2030 (for the SPC only).

Assumptions: Earnings growth

9.27. The average pension rates are assumed to increase in line with real earnings growth.

9.28. Since we are using the CSO population projections which were the basis for the population projections used in the Actuarial Review of the SIF, we have taken the earnings growth rates from the Actuarial Review of the SIF to be consistent.

Table 33: Real earnings growth– Actuarial Review of SIF

	2015	2020	2030	2040	2050	2060
Real earnings growth	0.10%	1.80%	1.50%	1.50%	1.50%	1.50%

9.29. The real earnings growth rates from AR15 are shown below.

Table 34: Real earnings growth – AR15

	2015	2020	2030	2040	2050	2060
Labour productivity per hour (growth rate)	-0.15%	1.36%	1.57%	1.54%	1.54%	1.53%

9.30. AR15 states that "*real wage growth is equal to labour productivity growth*" so we have shown the figures for labour productivity growth as the real earnings growth rate.

GDP

9.31. We express the projected pension costs, derived using the methodology and assumptions as set out above, as a percentage of GDP.

9.32. Since we are using revised population projections, we have revised the GDP used in AR15 to be consistent with the labour force projections arising from our population projections.

Table 35: Projected GDP (€ billions)

	2015	2020	2030	2040	2050	2060
AR15	169	181	211	249	289	369
Milliman central projection	172	195	262	339	407	503

9.33. As can be seen from Table 35, the projected GDP levels differ greatly. However, this is largely a function of the differences in the population projections (see Table 29). Comparing the two projections on a GDP per capita basis, the position is as follows:

Table 36: Projected GDP per capita (€)

	2015	2020	2030	2040	2050	2060
AR15	36,715	39,262	46,302	53,194	58,207	70,433
Milliman central projection	37,005	39,869	47,994	55,978	61,277	70,527
% difference	1%	2%	4%	5%	5%	0%

9.34. Note that the percentage differences shown in Table 36 are due to the fact that the projected GDP is shown per capita whereas the projected GDP is derived based on total numbers employed. The two GDP projections differ, therefore, due to differences in the population at working age, the employment rates and the labour force participation rates.

10. APPENDIX C: RESULTS ON ALTERNATIVE ASSUMPTIONS (AR15 BASIS)

Introduction

10.1. As discussed in Chapter 4, all long-term projections of future pension outgo are heavily dependent on the assumptions employed.

10.2. This Appendix sets out the results of the possible options examined for reducing the projected level of State pension outgo using an alternative set of assumptions i.e. the assumptions underlying the AR15 projections. The levers and parameters investigated are the same as those considered in Chapter 5.

10.3. The results for the four combinations of options considered in Chapter 6 of this report are also shown on the AR15 basis below.

Options for reform

10.4. Four different levers were looked at; pensions amount, indexation, retirement age and eligibility rules. In some cases a range of possible parameters were considered. The details of the various projections set out in Table 37 can be found in Chapter 5.

Table 37: Projections of future pension costs – on AR15 basis (% of GDP)

	2015	2025	2035	2045	2055	2065
Ageing Report 2015 ("AR15") projections	5.5%	6.0%	6.9%	7.8%	7.7%	–
Milliman projection (AR15 assumptions)	5.5%	6.1%	7.0%	8.1%	8.5%	7.4%
1a – Reduce pensions amount from 2040	5.5%	6.1%	7.0%	7.3%	7.6%	6.7%
1b – Reduce pensions amount immediately	5.0%	5.6%	6.4%	7.5%	7.8%	6.9%
2a – Index to prices	5.5%	5.5%	5.5%	5.5%	4.9%	3.7%
2b – Index to avg. of prices & earnings	5.5%	5.8%	6.2%	6.7%	6.5%	5.2%
2c – Index to prices from 2040	5.5%	6.1%	7.0%	7.4%	6.6%	5.0%
2d – Index to prices until 2040	5.5%	5.5%	5.5%	6.0%	6.3%	5.5%
3a – Retirement age +1 year every 10 years	5.5%	6.1%	7.0%	7.8%	8.0%	6.9%
3b – Retirement age +1 year every 7 years	5.5%	6.1%	6.7%	7.5%	7.8%	6.6%
4 – Restrict eligibility to SPC	5.3%	5.8%	6.7%	7.8%	8.1%	7.1%

Combinations of options

10.5. The results of several combinations of the options above were also calculated on the AR15 basis. The details of the combinations can be found in Chapter 6.

Table 38: Projections of future pension costs – on AR15 basis (% of GDP)

	2015	2025	2035	2045	2055	2065
Ageing Report 2015 ("AR15") projections	5.5%	6.0%	6.9%	7.8%	7.7%	–
Milliman projection (AR15 assumptions)	5.5%	6.1%	7.0%	8.1%	8.5%	7.4%
C1 – Increase retirement age; CPI until 2040	5.5%	5.5%	5.5%	5.8%	5.9%	5.1%
C2 – Increase retirement age; avg. CPI, earnings	5.5%	5.8%	6.2%	6.4%	6.1%	4.9%
C3 – Increase retirement age; restrict eligibility	5.3%	5.8%	6.7%	7.5%	7.7%	6.6%

10.6. Table 39 shows the net pension outgo after PRSI contributions.

Table 39: Projections of future pension outgo (as % of GDP) net of PRSI contributions – on AR15 basis

	2015	2025	2035	2045	2055	2065
Milliman projection (AR15 assumptions)	2.5%	2.6%	3.1%	3.4%	4.0%	4.5%
C4 – Increase both retirement age & PRSI	1.5%	2.1%	3.0%	3.8%	4.0%	2.9%