



Secondary Pension Scheme for Guernsey & Alderney

Scheme Projections & Economic Impact Assessment

Prepared by BWCI Consulting Limited &
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part of the BWCI Group.

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About the Authors

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Provision of Advice

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- TAS 100: Principles for Technical Actuarial Work (version 1.0 effective from 1 July 2017).

The other sections of this report are not actuarial work and therefore fall outside the scope of the TASs.

Executive Summary

Background

1. In February 2016 the States agreed, in principal, to the introduction of a Secondary Pension Scheme¹ in Guernsey and Alderney to be phased in over a 7-year period (2020-2027). The Committee *for* Employment & Social Security (the Committee) are taking this forward.
2. The Secondary Pension Scheme has three objectives:
 - To encourage residents to take greater responsibility for saving for their own retirement;
 - To increase both the number of residents saving in a private pension and the total amount of private pension saving by residents, in order to reduce the likelihood of future generations of retirees falling back on the taxpayer funded benefits;
 - To provide residents with the opportunity to save for their retirement by establishing a well-governed, cost-effective pension saving vehicle (i.e. a States-facilitated Secondary Pension Scheme)
3. The Secondary Pension Scheme will require employers to automatically enrol their employees into either the States-facilitated Secondary Pension Scheme or an alternative qualifying scheme which satisfies some minimum criteria, which are yet to be specified. Eligible self-employed and non-employed people will be automatically enrolled through the Social Security system.
4. The Secondary Pension Scheme is not compulsory for individuals; anyone automatically enrolled into the Secondary Pension Scheme may opt out. However, those who opt out would be re-enrolled at regular intervals.

Scope of Report

5. This report was commissioned by the Committee to:
 - i) Project the size of the funds in the States-facilitated Secondary Pension Scheme over the 50-year period 2020-2069
 - ii) Consider the economic impact of the introduction of the Secondary Pension Scheme on the various stakeholders:
 - ◆ individuals
 - ◆ households
 - ◆ employers
 - ◆ the government
 - ◆ the economy

A wide range of assumptions are required for the development of the actuarial and economic projection models to address these two issues. Our central results are based on a “base case” set of assumptions. We have also considered the sensitivity of the projections to changes in key assumptions. The assumptions

¹ The Secondary Pension Scheme refers to a system of automatic enrolment into a private pension for residents in Guernsey and Alderney. It is expected that there will be both a States-facilitated secondary pension scheme and alternative qualifying secondary pension schemes.

and the range of sensitivities have been discussed and agreed with the Committee. **See section 3.4 for details of the assumption and Appendix 11 for a detailed discussion of the rationale.**

Size of the States-facilitated Secondary Pension Scheme

6. Under the base case assumptions, the assets of the States-facilitated fund are projected to grow, in real terms, to £1.3 billion (in 2017 terms) over the first 50 years of operation. The Secondary Pension Scheme is expected to reach an “equilibrium” towards the end of the projection period. From that point, the size of the fund is expected to increase in line with the population-related real growth in employment income, which is 1% per annum for the base case assumption.

Impact on individuals

7. No-one already receiving their States old age pension when the Secondary Pension Scheme is introduced will be directly affected. However, they may be affected indirectly by the impact on the economy, the government or their employer (if they are still in employment). It may make employment of those over pension age more attractive financially to employers since the employer would not need to pay any Secondary Pension Scheme contribution for these employees; this would be broadly a saving of 3.5% of earnings after the phasing in period in respect of any employees over pension age relative to those of working age.
8. The working age population is projected to be 41,500 in 2020. The introduction of the Secondary Pension Scheme is expected to increase the proportion of the working population saving for retirement in a pension scheme from 22% to 61%. Under the base case assumptions 20,200 individuals would be automatically enrolled into the Secondary Pension Scheme in 2020 and it is estimated that 16,200 would remain in the Secondary Pension Scheme, as shown in Figure 1 (**see also section 5.1**).

Figure 1. Membership of Secondary Pensions among working age population (2020)

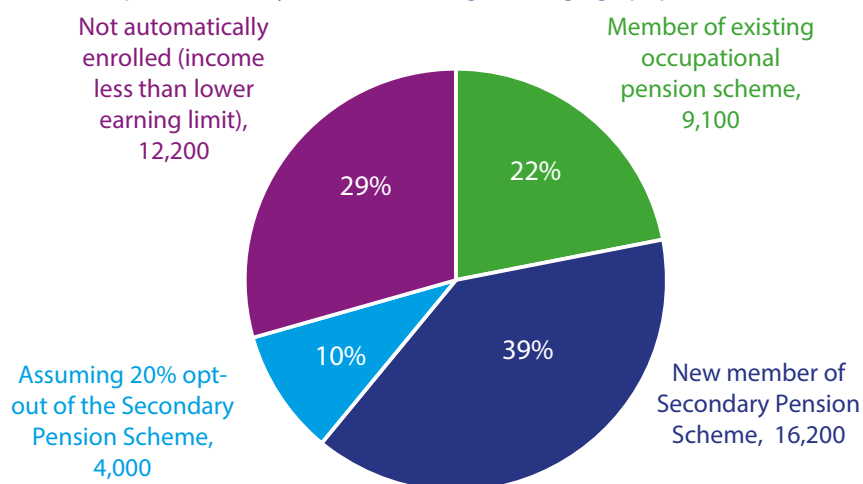
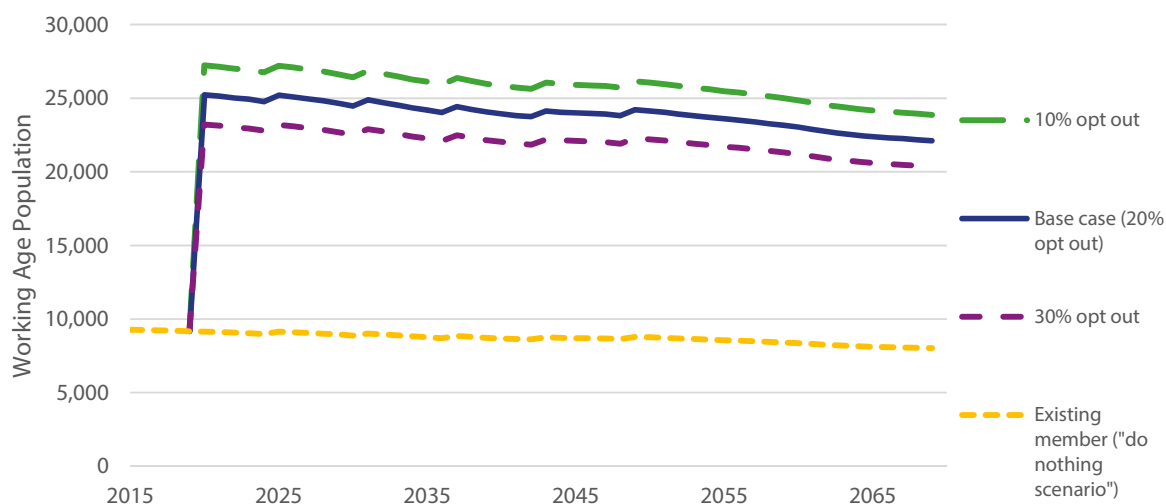


Figure 2 shows the projected membership of the Secondary Pension Scheme among the working age population until 2069 under the base case 20% opt out assumption, and sensitivity on the opt out rate. The projection assumes the proportion of the working age population who are members of the Secondary Pension Scheme remains constant, while the actual working age population is decreasing slightly over this period after allowing for both demographic changes and changes to the States pension age.

Figure 2. Membership of Secondary Pensions among working age population (2020-2069)²



At the end of the phasing-in period, employees would be saving 10% of their earnings each year into the Secondary Pension Scheme as follows:

- 6.5% of gross earnings from the individual³
- 3.5% of gross earnings from their employer

- The maximum contribution⁴ an employee would make (in 2017 terms), after the end of the phasing-in period, would be £9,014. 20% tax relief is generally available on contributions⁵, so for most contributors the reduction in their disposable income would be 80% of the amount contributed, provided that they are paying their contributions from earnings in excess of the personal allowance (£10,000 in 2017).
- The additional pension that these contributions are expected to provide at retirement is expressed in terms of an individual's level of income immediately before retirement; the income replacement rate. In view of the objective to reduce the likelihood of future pensioners falling back on taxpayer-funded benefits, the impact of the Secondary Pension Scheme is particularly important for those on relatively low earnings. Figure 3 illustrates that for the base case assumptions, the projected income replacement rate for a lower quartile earner increases from just below 40% (the old age pension alone) to up to around 80% for a person who contributes to the Secondary Pension Scheme throughout their

² In this and subsequent line charts the order of the categories in the legend corresponds to the order of the series at the end of the time period (i.e. with the highest value listed first).

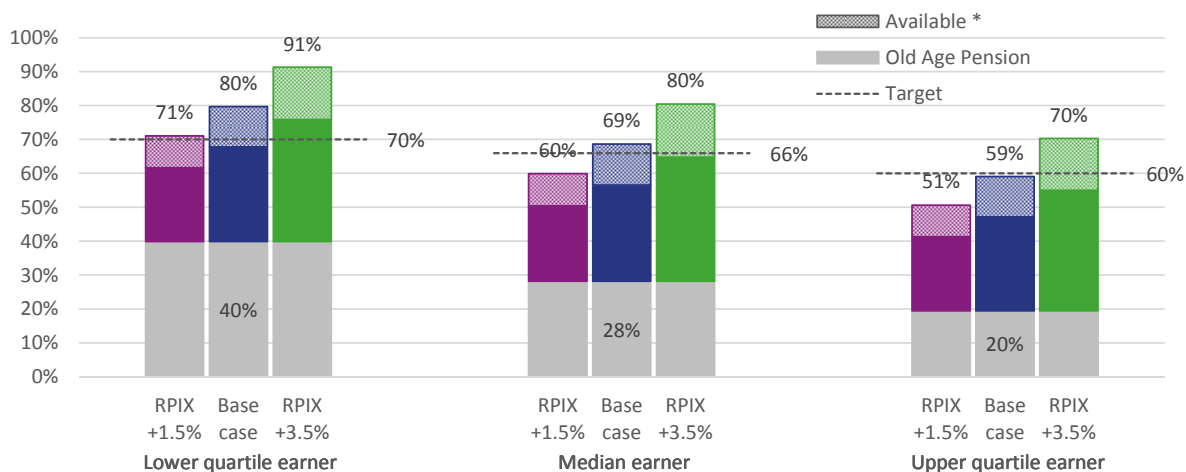
³ As pension contributions are tax-deductible, individuals contributing to the Secondary Pension Scheme would receive income tax relief up to 1.3% of their gross salary.

⁴ For those earning in excess of the Upper Earnings Limit ("UEL") of £138,684 in 2017

⁵ The 2018 budget reduced tax relief on pension contributions for those with income in excess of the UEL.

working life from age 25 to age 70 and takes no lump sum (**see also Section 5.2.3**). The chart shows the impact of members taking lump sums from their Secondary Pension Scheme. An additional amount is shown as available (dotted area) which can be accessed by taking less than the maximum lump sum of 30% of their Secondary Pension Scheme fund at retirement. The chart also illustrates how the ultimate pension from the Secondary Pension Scheme depends on the investment return achieved on the funds invested.

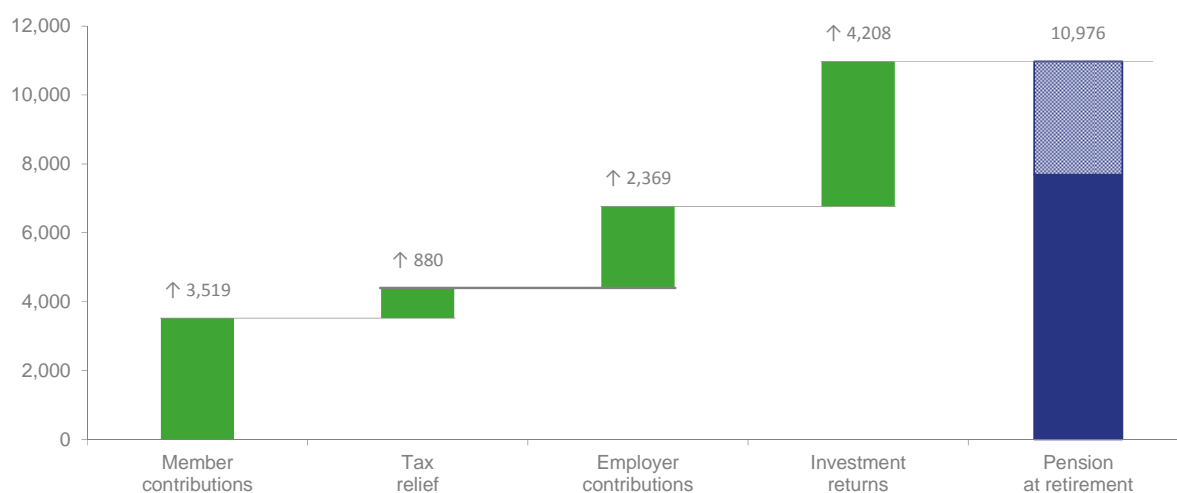
Figure 3. Income replacement rates⁶



* depending on lump sum taken from Secondary Pension

- Figure 4 illustrates the pension at retirement for the lower quartile earner for an individual who joins the Secondary Pension Scheme aged 25 (as per the income replacement rate examples in Figure 3). It shows how the different components of the Secondary Pension Scheme are expected to contribute to the size of the pension for the individual, under the base case assumptions.

Figure 4. Source of Secondary Pension Scheme pension for lower quartile earner



⁶ The RPIX references in the chart relate to sensitivities on the rate of investment return assumed.

The dotted area shows the amount of pension which would not be available if the maximum lump sum is taken at retirement. If no lump sum is taken then a pension of £10,976 per annum is available to the lower quartile earner. If the maximum lump sum of £64,441 is taken then a pension of £7,683 per annum is expected to be available to the lower quartile earner.

The chart shows that the contributions paid by the member provide a pension of £3,519 per annum at retirement, in terms of current prices. However, because of the positive impact of tax relief, employer contributions and investment returns (net of charges), the cumulative impact is to provide a pension of £10,796 per annum at retirement (if no lump sum is taken). Therefore, the pension that the lower quartile earner is expected to receive at retirement is worth around three times what the member has contributed.

Impact on Households

12. It is important to consider the impact of the Secondary Pension Scheme at a household level, since this is how eligibility for income support⁷ will be assessed. Income support is designed to top up a household's income to the level considered necessary to live on. The amount of capital that a household has is also included in the assessment. About 10% of households currently receive supplementary benefit. We have illustrated the impact on a range of different household types. **(See Table 8 and 8 in section 5.3).**
13. Those in the working age population who qualify for income support will not have their income reduced if they contribute to the Secondary Pension Scheme. This is because pension contributions are an allowable deduction for income support purposes. If the payment of Secondary Pension Scheme contributions reduced a household's income, it could result in some additional households becoming eligible for income support. For households which are not receiving income support, there would be a reduction in household income. However, part of the reduction would be offset by a lower income tax liability.
14. Joining the Secondary Pension Scheme is expected to yield additional pension income in retirement for all those who participate. In addition, the extra pension income created as a result of participation in the Secondary Pension Scheme is expected to remove some pensioner households from needing income support. It should be noted that if part of the pension were to be taken in lump sum form it could increase the household's capital and make them ineligible for income support until their capital falls below the income support threshold.

Impact on Employers

15. There are no reliable data on the number of employers who currently offer a pension as part of their remuneration package. There are around 2,500 employers in Guernsey; 69% of them are "micro employers" with up to 5 employees, and 82% of all employers have up to 10 employees.
16. We have estimated that about 7% of employers have an occupational pension scheme. Micro employers are the least likely to offer an occupational pension. Therefore, the vast majority of employers are expected to start to pay pension contributions for their employees for the first time when the Secondary Pension Scheme is introduced. The first-year contributions under the base case assumptions are expected to be around £5 million; this will increase to a projected £19 million (in 2017

⁷ Income support is expected to replace supplementary benefit and rent rebate in 2018

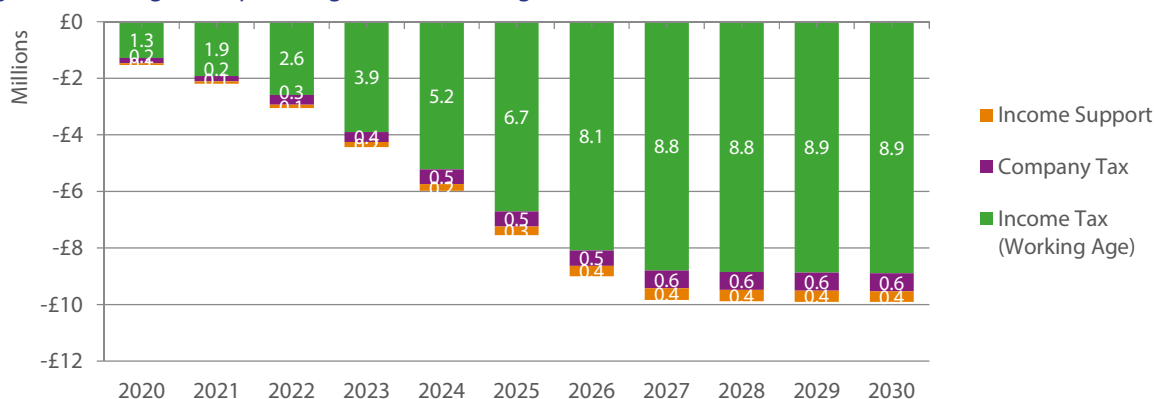
terms) by 2027. Thereafter the contributions are expected to increase in line with increases in real earnings: under the base case assumption of real earnings growth of 1%, employer contributions reach £25 million by 2069 (**see Section 6.2.1**).

17. It is difficult to know at this stage how employers will respond in practice. The net impact on their profits may be less than the costs they incur (in contributions and administration expenses) if they chose to take some mitigating action. This could be achieved in a number of different ways; by making changes that reduce the wage bill in real terms, increasing productivity or passing on some of the costs to consumers through increasing prices.
18. The projected impact is greater on the smallest employers because they are less likely to offer an existing pension, and in relation to resources allocated (e.g. staff time or professional advice) to ensure they comply with the new Secondary Pension Scheme legislation. It will be important to ensure that the Secondary Pension Scheme is effectively communicated to employers, easy to understand, and the process of auto-enrolment is straightforward and manageable for the smaller employer. However, only in some instances will the additional resources represent a monetary cost. In other cases, the additional resources required will be staff time that can be absorbed within the existing workload.

Impact on Government

19. We have estimated the marginal impact on government finances, which compares introducing the Secondary Pension Scheme to “doing nothing”. To put the figures in context, in 2016, total general revenue was £407 million. The largest single component was personal income tax, which accounted for 60% of the income (£246 million). Company tax made up a further 12% (£47 million).
20. The Secondary Pension Scheme will impact on the revenue from personal income tax in two ways:
 - Individuals contributing to a secondary pension will typically pay less in income tax since pension contributions are largely tax exempt
 - Individuals receiving income from a secondary pension may pay more in income tax since pension income is included in the income tax assessment.
21. Pensions are long-term savings and therefore it will take a considerable period (around 70 years) until the system reaches a broadly stable state. There will be a reduction in government revenue, largely due to the fall in personal income tax receipts, due to the tax relief on pension contributions (Figure 4). In the first year of the Secondary Pension Scheme, the projected loss in income tax revenue is £1.3 million. By 2027, when the employee contribution rate reaches 6.5%, the projected reduction in income tax revenue is £8.8 million (Figure 5). There will also be a small increase in the amount paid in income support and a fall in company tax revenue, since pension contributions are a deductible expense. The total projected impact on the government budget in 2027 is estimated to be a £9.8 million reduction (in 2017 terms). **See Section 7 for further details.**

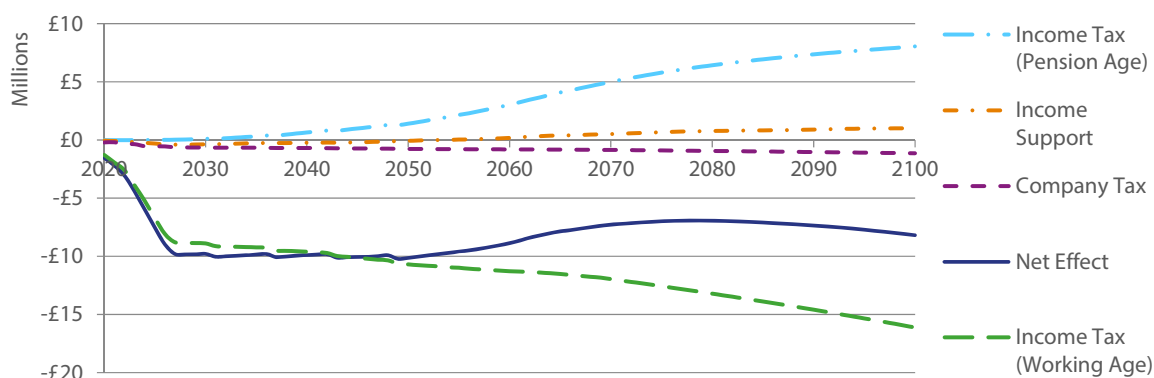
Figure 5. Marginal impact on government budget in the short-term (2020-2030)



22. In monetary terms, the magnitude of the fiscal impact reduces slightly over the medium-term but ultimately the net effect of the Secondary Pension Scheme is a sustained and increasing loss in government revenue compared to the “doing nothing” scenario. The net effect is shown as the dark blue line on Figure 6.

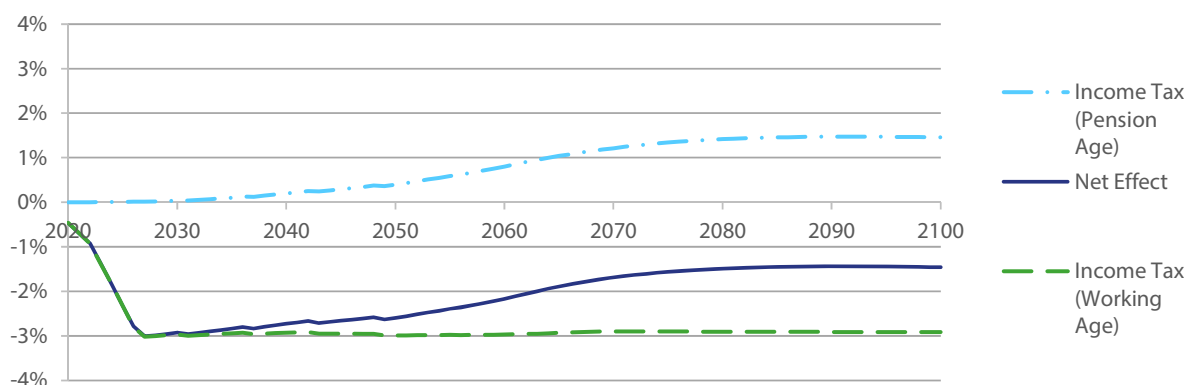
23. Figure 6 also illustrates the interaction of the different components. As shown, the loss in income tax revenue from the working age population increases over time. This loss is in part offset, as the additional pension income generated by the Secondary Pension Scheme will increase the taxable income of those over pension age. Initially this effect is small, as the first recipients of the Secondary Pension Scheme pension will only have contributed to it for part of their career. As contributions are invested for an entire working life, the amount of pension will increase as the Secondary Pension Scheme matures so increasing income tax payments. **See Sections 7.1, 7.5 and 7.6 for further details.**

Figure 6. Marginal impact on government budget in the long-term (2020 to 2100)



24. In the long-term loss in revenue is equivalent to 1.5% of the personal income tax revenue. Figure 6 focuses on personal income tax revenue, showing the loss as a percentage of the total. Relative to the total, the maximum impact over the projection period occurs in 2027 when the contributions reach 6.5%. Thereafter, the impact of the loss lessens, because there will be a growing number of pensioners receiving income from a secondary pension (Figure 6). **See Section 7.1 for further details.**

Figure 7. Marginal impact on personal income tax revenue, as a percentage of total personal income tax revenue



Impact on the Economy

25. Individuals who pay into a secondary pension will see a reduction in their disposable income. This will lead to a reduction in consumer spending in the short-term. However, in time consumption will increase as pensioners who have contributed to the Secondary Pension Scheme will have higher incomes in retirement and would be expected to spend at least some of their additional income.
26. The Secondary Pension Scheme is unlikely to impact on labour participation rates, but may impact on employment and suppress wage growth in the short-term. Firms may look to offset their pension contributions by limiting salary increases and bonuses. However, firms that want to recruit and retain high quality staff will need to offer an attractive remuneration package as the size of the workforce is limited and there are very low unemployment rates. This means firms will face some constraints on their ability to recover the additional wage bill through lower pay awards.
27. In the short-term the Secondary Pension Scheme will put pressure on economic growth, primarily reflecting the reduction in disposable income and consumer spending. Over time the impact will reduce, as the Secondary Pension Scheme will cumulate in an increase in the disposable income, consumption and economic activity of households in retirement. In the long term, the marginal cost of the Secondary Pension Scheme is likely to be small; the assumed rate of real earnings growth would be associated with higher levels of economic growth. The magnitude of the impact is likely to be relatively limited, and the risks will be small compared to other economic challenges, such as the impact of Brexit.

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1. Introduction

1.1 Introduction to the Secondary Pension Scheme

The States of Guernsey is proposing to introduce a new system of automatic enrolment into a private pension for residents of Guernsey and Alderney, known as the Secondary Pension Scheme⁸. As set out in the Billet d'État⁹ from 16 February 2016 ("the 2016 Billet"), the policy aims are:

- to encourage residents to take greater responsibility for saving for their own retirement;
- to increase both the number of residents saving in a private pension and the total amount of private pension saving by residents in order to reduce the likelihood of future generations of retirees falling back on taxpayer funded benefits;
- to provide residents with the opportunity to save for their own retirement by establishing a well-governed, cost-effective private pension savings vehicle (i.e. a States-facilitated Secondary Pension Scheme).

It is proposed that eligibility to join a Secondary Pension Scheme will be based on an individual's income and their social insurance classification:

- SI Class 1: Employed individuals will be eligible if their employment income exceeds the lower earnings limit ("LEL")¹⁰
- SI Class 2: Self-employed individuals will be eligible if either their employment income or their business income exceeds the LEL
- SI Class 3: Non-employed individuals will be eligible if their gross income exceeds the lower income limit ("LIL")¹¹

Non-employed individuals under pensionable age, who do not receive an income and do not make social security contributions, would not be automatically enrolled in the Secondary Pension Scheme, but would be able to opt in on a voluntary basis.

Employers will be responsible for enrolling eligible employees; eligible self-employed and non-employed individuals will be enrolled by the Committee for Employment & Social Security. Individuals who are automatically enrolled will be able to opt out of the Secondary Pension Scheme, but would be re-enrolled at regular intervals.

Employers will be able to choose to use either a States-facilitated Secondary Pension Scheme or an alternative qualifying scheme. The criteria for alternative qualifying schemes are yet to be finalised. However, occupational pension schemes that are as good or are better than the States-facilitated secondary pension scheme are expected to qualify.¹²

⁸ It is expected that there will be both a States-facilitated secondary pension scheme and alternative qualifying secondary pension schemes.

⁹ Billet d'Etat Volume III, page 816

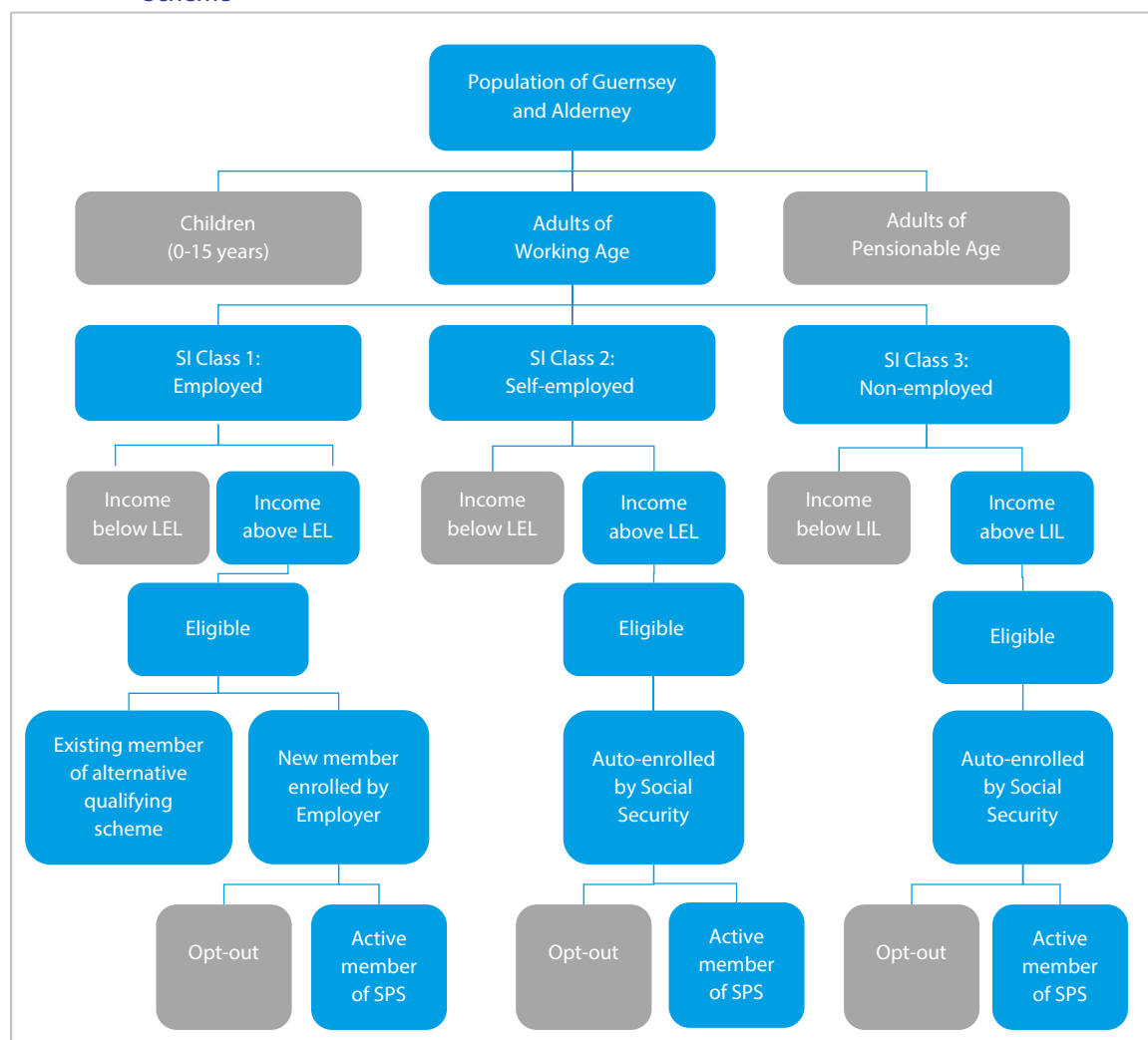
¹⁰ In 2017 the LEL was £6,968 and this value has been used in the modelling. The LEL will be £7,176 in 2018.

¹¹ In 2017 the LIL was £17,420 and this value has been used in the modelling. The LIL will be £17,940 in 2018.

¹² It is possible some employers may want to change their pension provision in light of the policy change and the introduction of a States-facilitated scheme.

Figure 8 illustrates eligibility for the Secondary Pension Scheme.

Figure 8. Flow chart depicting eligibility, auto-enrolment and participation in the Secondary Pension Scheme



It is proposed that the Secondary Pension Scheme will be introduced over an eight year period, with the proposed statutory minimum contribution rates gradually increasing over this period (Table 1). Individuals will also be able to make additional voluntary contributions or lump-sum investments into the Secondary Pension Scheme.

Table 1. Minimum individual and employer pension contribution rates

	2020	2021	2022	2023	2024	2025	2026	2027 (onwards)
Individual contribution	1%	1.5%	2%	3%	4%	5%	6%	6.5%
Employer contribution	1%	1%	2%	2%	3%	3%	3%	3.5%
Total	2%	2.5%	4%	5%	7%	8%	9%	10%

Source: Billet d'État III 2016 Table 2.

Contributions to the Secondary Pension Scheme will be assessed on an individual's income and depends on their social insurance classification, as described below:

SI Class 1: Employed	Assessed on employment income up to the upper earnings limit ("UEL") ¹³ (£138,684 in 2017).
SI Class 2: Self-employed individuals	Assessed on i) employment income if employment income exceeds the LEL, and ii) business income if business income exceeds the LEL. Contributions would be based on combined earnings from employment and business income up to the UEL.
SI Class 3: Non-employed	Assessed on gross taxable income less allowance for non-employed ¹⁴ (£7,875 in 2017) up to the UEL.

1.2 Estimating the size of States-facilitated Secondary Pension Scheme

The States-facilitated Secondary Pension Scheme will be built up from contributions paid in by individuals and their employers, along with investment returns achieved, less the benefits and expenses paid out. In order to project the future size of the fund, assumptions about each of these are required. The assumptions underlying the projections are set out in Section 3.4, which have been agreed with the Committee for Employment & Social Security.

¹³ In 2017 the UEL was £138,684 and this value has been used in the modelling. The UEL will be £142,896 in 2018.

¹⁴ In 2017 the allowance was £7,875 and this value has been used in the modelling. The allowance will be £8,110 in 2018.

2. Demographic and Economic Context

2.1 Estimating the Economic Impact

The Secondary Pension Scheme will have an economic impact on individuals and households, employers, government finances, and the economy as a whole. Specifically, the economic impact assessment considers the following effects:

Individuals & Households

- Impact on income of working age individuals who are automatically enrolled in a Secondary Pension Scheme (including income tax paid and effective tax rates)
- Impact on income of pension age individuals who contributed to a Secondary Pension Scheme and receive pension income in retirement, including income replacement rates
- Impact on household income, including eligibility for income support

Employers

- Short- and long-term impact on costs incurred by employers (by sector and size) as they enrol employees into a secondary pension and are required to make an employer contribution

Government Budget

- Marginal impact on income tax revenue
- Marginal impact on company tax revenue
- Net effect on tax revenue, including the implications of changing the tax strategy from EET to TEE
- Marginal impact on government expenditure
- Marginal impact on overall government budget

Economy

- Short- and long-term impact on consumption
- Potential impact on economic growth

2.2 Demographic Profile of Guernsey and Alderney

Guernsey has a population of 62,821 and Alderney has a population of 2,035 (Table 2). A notable difference between the demographic profiles of Guernsey and Alderney is the much higher proportion of the population in Alderney than in Guernsey who are aged 65 and over (35% compared to 19%).

Table 2. Prevailing age distribution of the population in Guernsey and Alderney

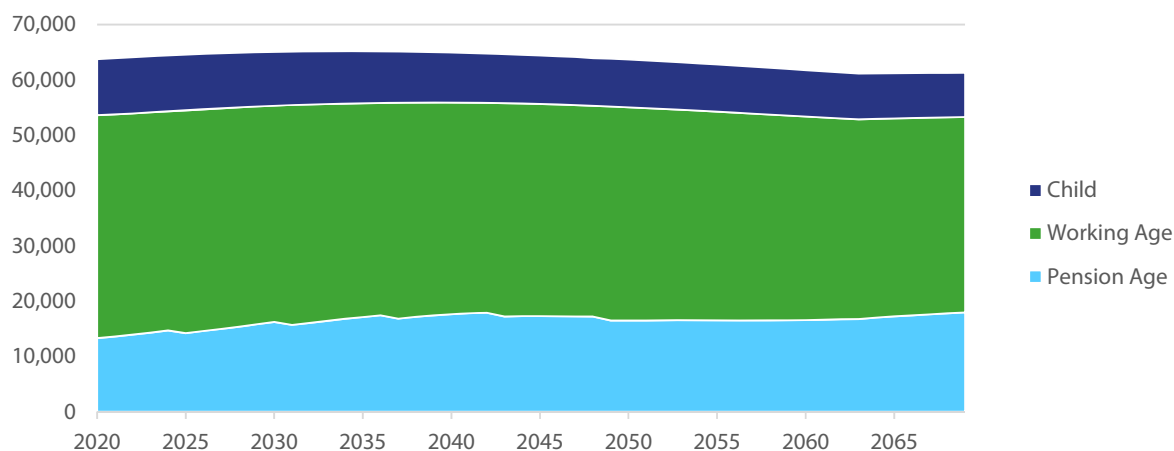
	Guernsey (as at 31 September 2016)		Alderney (as at 31 March 2016)	
Children 0-15 years	10,242	16%	202	10%
Adults 16-64 years	40,492	65%	1,133	56%
Adults 65 years and over	12,087	19%	700	34%
TOTAL	62,821		2,035	

Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017. States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

The projected population is expected to be reasonably stable over the next 50 years. However, there are demographic changes resulting in an ageing population. By 2069, it is expected that 29% of Guernsey's

population will be aged 70 years or older (i.e. of pension age). The projected changes to the age distribution are shown in Figure 9, and take into account the planned changes to the States pension age.¹⁵

Figure 9. Population Projection for Guernsey until 2069

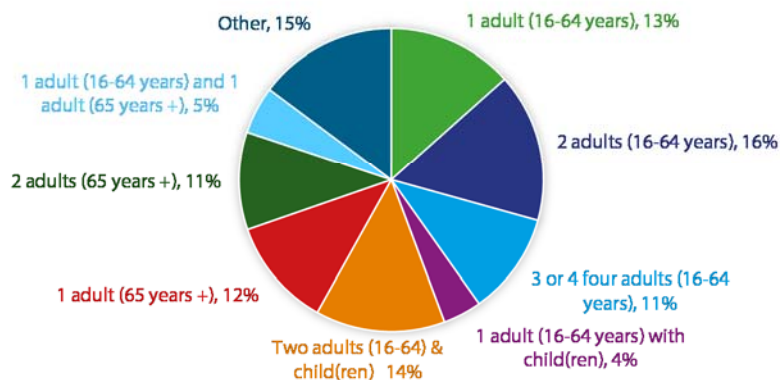


Source data supplied by States of Guernsey.

2.2.1 Household Composition

According to the recent Guernsey Household Income Report most households contain one or two adult members, as shown in Figure 10.¹⁶

Figure 10. Household Composition in Guernsey



Source: States of Guernsey (2017) Guernsey Household Income Report, which reports on 22,209 households in Guernsey as at 31 December 2014.

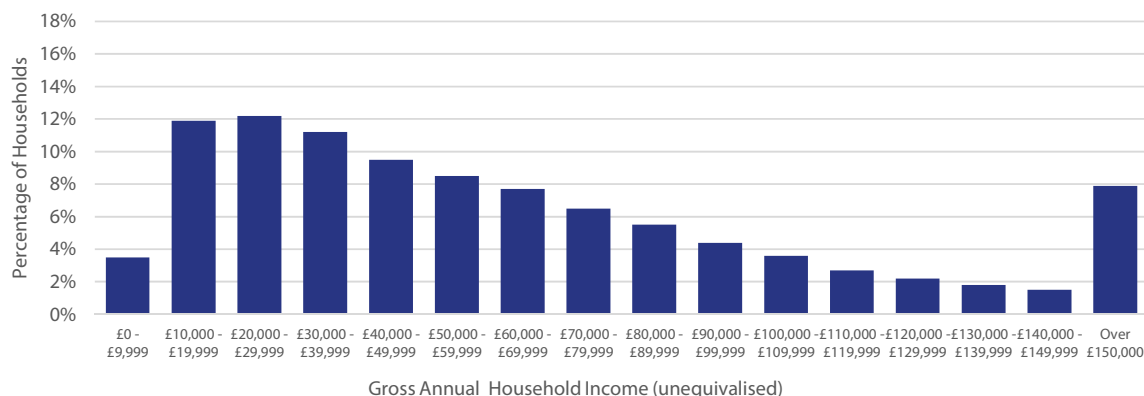
¹⁵ The State pension age will be gradually increased. From 1 March 2020 the pension age will increase by 2 months annually until it reaches 70 years of age (<https://www.gov.gg/oldagepension>). Our analysis takes into account the planned increases in the States pension age, but only when they reach the next full year. Thus, it has been assumed the State pension age will increase to 66 in 2025, 67 in 2031, 68 in 2037, 69 in 2041 and 70 in 2049. These step changes explain the ripples that occur at 2025, 2031, 2037, 2041 and 2049 in Figure 9.

¹⁶ There are no published statistics on the household composition and household income in Alderney.

2.2.2 Household Income

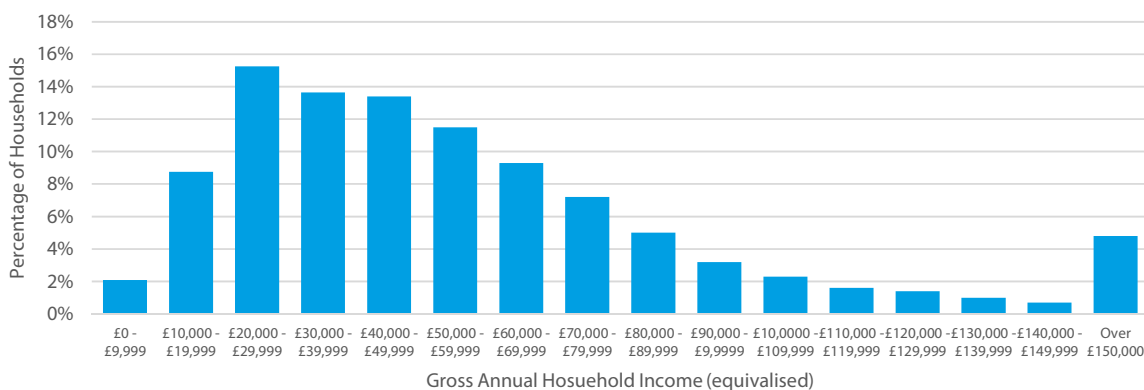
Mean annual gross household income¹⁷ in 2014 was £71,129, and median gross household income was £51,877.¹⁸ On an equivalised basis, mean gross annual household income was £61,099 and median gross annual household income was £47,838.¹⁹ Equivalised incomes take into account the exact size and composition of the household, and were determined for each household using an international standard adjustment. Income is then expressed relative to the level of income for a two adult household which would represent an equivalent level of resources. The distribution of annual gross household income for 22,209 households in 2014 is shown Figure 11 and Figure 12.

Figure 11. Distribution of annual gross income for households in Guernsey



Source: States of Guernsey (2017) Guernsey Household Income Report.

Figure 12. Distribution of annual gross income for households in Guernsey (equivalised to adjust for differences in household composition)



Source: States of Guernsey (2017) Guernsey Household Income Report.

¹⁷ Gross household income is defined as the total income of a household derived from the following sources: employment income, business income, old age (i.e. States) pension, private occupational pension, private personal pension, distribution income, annuity income, bank interest, loan interest, benefits and rent rebates.

¹⁸ States of Guernsey (2017) Guernsey Household Income Report, which reports on 22,209 households in Guernsey as at 31 December 2014

¹⁹ States of Guernsey (2017) Guernsey Household Income Report.

Individuals typically spend a large proportion of their net income. Total household expenditure (excluding capital investments and money transfers) was reported to be 74% of mean total household income and 90% of median total household income in Guernsey in 2012-13.²⁰ Housing, fuel and power are often a large portion of household expenditure, and these categories constituted 26% of overall household expenditure. Groceries (excluding alcohol) and transport were also key areas of spend, and each represented almost 10% of household expenditure. It should be noted that expenditure can be funded from income or savings.

2.2.3 Employment Status

Two-thirds (67%) of working age adults in Guernsey and Alderney are employed, and a further 8% are self-employed (Table 3). The remaining 25% are classified as non-employed for social security purposes (this includes individuals 16 years and over in full-time education).

Table 3. Social Insurance Classification

	Guernsey (as at 31 March 2017)	Alderney* (as at 31 March 2016)	Guernsey and Alderney	
Class 1: Employed	27,150	633	27,783	67%
Class 2: Self-employed	3,094	148	3,242	8%
Class 3: Non-employed**	10,248	352	10,600	25%
Total	40,492	1,133	41,625	100%

*Assumes all employees and self-employees are working age.

** Number non-employed is the total working age adults less number employed and self-employed.

Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017. States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

²⁰ States of Guernsey (2014). The 2012-13 Household Expenditure Survey Report.

2.3 Economic Profile of Guernsey and Alderney

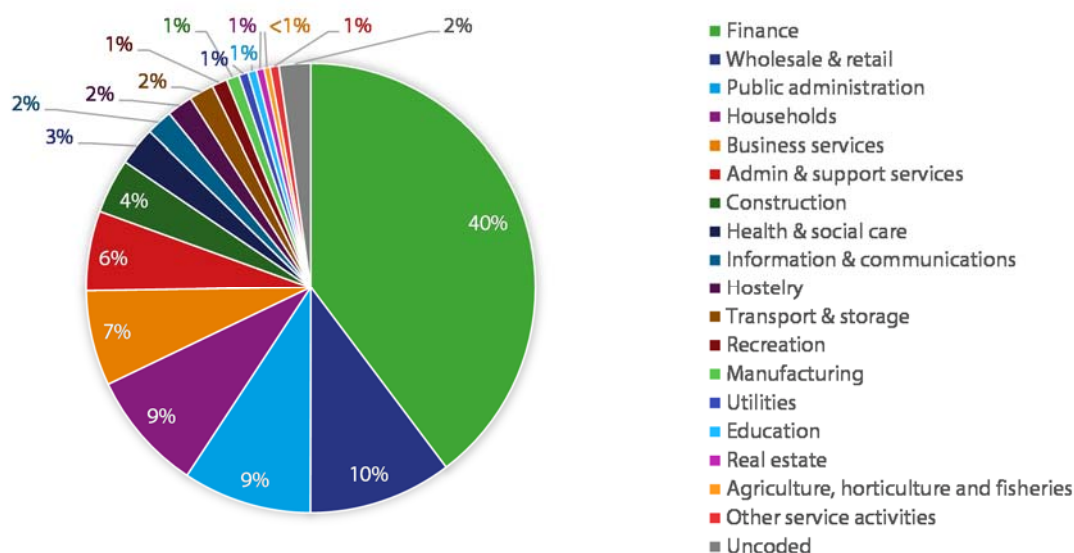
To understand the economic impact of the proposed Secondary Pension Scheme, it is useful to outline some of the important structural features of Guernsey and Alderney's economy:

- High Gross Domestic Product (GDP) per person
- An ageing population and a high dependency ratio
- Very low unemployment rates, representing "full employment" by international standards
- Labour constraints in Guernsey due to housing and migration controls, and compounded by geographic location and size
- Employment concentrated in a small number of sectors that are export-focused and compete globally (especially financial services).
- Employment in service sectors primarily satisfy local demand because of the islands' remote location. As such firms may find it easier to pass on additional costs in price increases, than businesses serving the export market.
- Seasonal variations in labour in some sectors, with employment rising in the summer and decreasing in the winter months.

2.3.1 Gross Domestic Product in Guernsey

GDP is the principle measure of economic output and economic growth is the change in economic output, usually measured as the change in GDP.²¹ In Guernsey, GDP is calculated as the sum of the island's income. The first estimate of GDP in 2016 was £2,868 million, of which 45% was compensation of employees, 38% was gross operating surplus, 8% was rental income of households, 6% was mixed income and 2% was taxes less subsidies.²² As Figure 13 shows, finance is by far the largest economic sector in Guernsey; in 2015 it contributed 40% of GDP. Wholesale and retail and, public administration are also relatively large contributors to GDP.

Figure 13. Contribution to Gross Domestic Product, by economic sector in 2016



Source: States of Guernsey (2017). Guernsey Annual GVA and GDP Bulletin

²¹ Annual GDP is the total value of a country's annual output of goods and services and is the sum of consumption, investment, public spending and the balance of trade (exports minus imports).

²² States of Guernsey (2017) Guernsey annual GVA and GDP Bulletin, Issue date 7 December 2017. The totals do not sum to 100% due to rounding.

2.3.2 Profile of Employers in Guernsey and Alderney

There are just over 2,500 employers; micro and small employers are prevalent (Table 4). Across the islands, 69% of employers have up to 5 employees, and 82% have up to 10 employees. Less than 4% of employers are medium and large firms. However, some employers are part of larger UK or international groups. It is also notable that just over a third of employers have a single employee.

Table 4. Number of employers in Guernsey and Alderney, by size

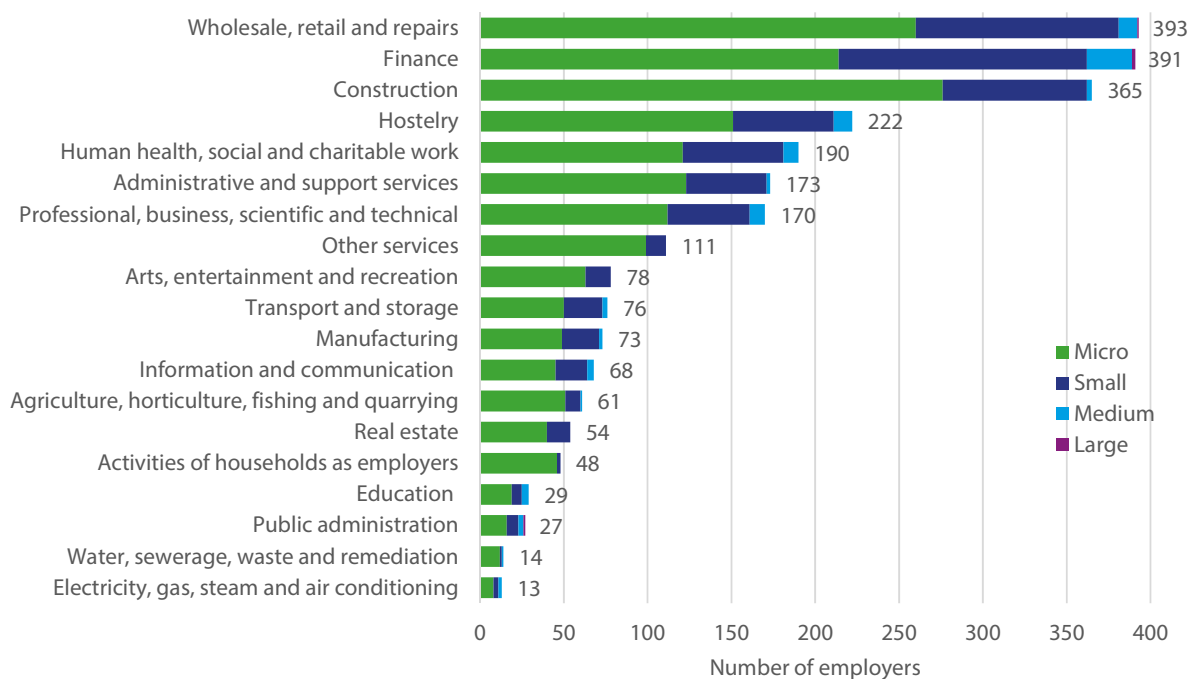
Employer Size (number of employees)		Guernsey (as at 31 September 2016)		Alderney (as at 31 March 2016)		Guernsey and Alderney	
Micro	1	802	33%	60	44%	862	34%
	2 to 5	842	35%	51	38%	893	35%
Small	6 to 10	325	13%	10	7%	335	13%
	11 to 25	248	10%	10	7%	258	10%
	26 to 50	108	4%	4	3%	112	4%
Medium	51 to 100	57	2%	0	0%	57	2%
	101 to 250	34	1%	1	1%	35	1%
Large	251 to 1000	3	<1%	0	0%	3	0%
	Over 1000	1	<1%	0	0%	1	0%
TOTAL		2420		136		2556	

Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017.

States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

Figure 14 shows the distribution of employers by sector and size. Just over half (54%) are from four sectors of the economy: wholesale, retail & repairs (15%); finance (15%); construction (14%); and hospitality (9%).

Figure 14. Number of employers in Guernsey and Alderney, by economic sector and employer size

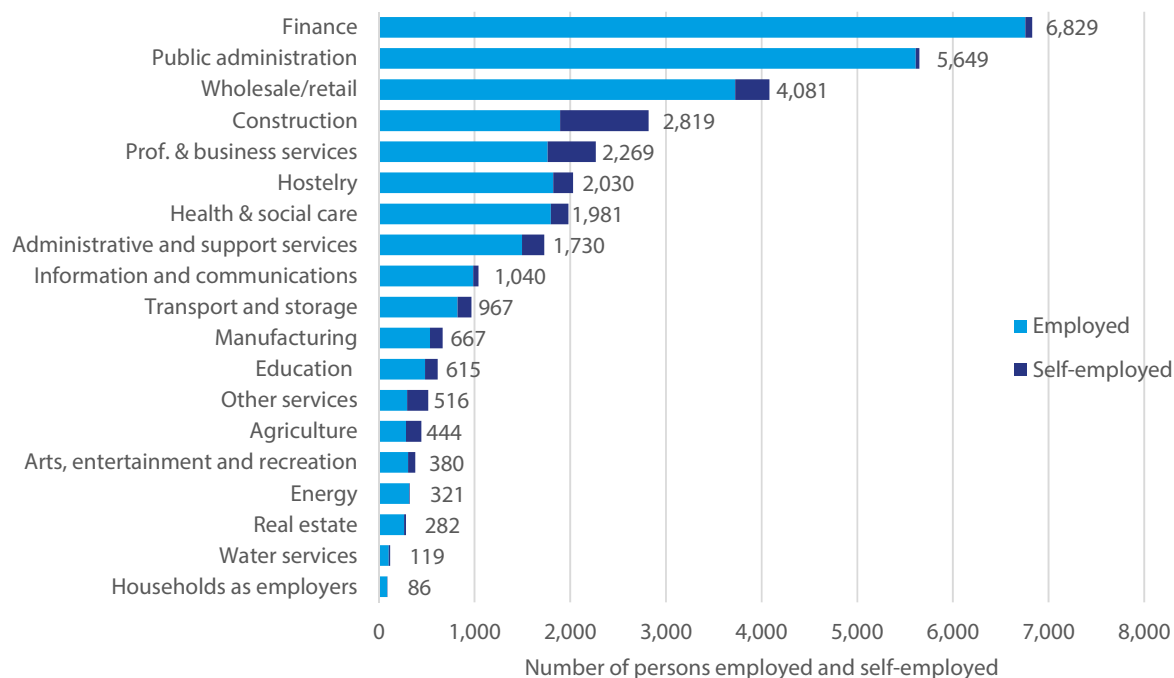


Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017.

States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

Figure 15 shows the number of people employed and self-employed across the two islands by sector. Half (50%) of the workforce are in three sectors: finance (21%); and public administration (17%); and wholesale, retail & repairs (12%).

Figure 15. Number of persons employed and self-employed, by economic sector

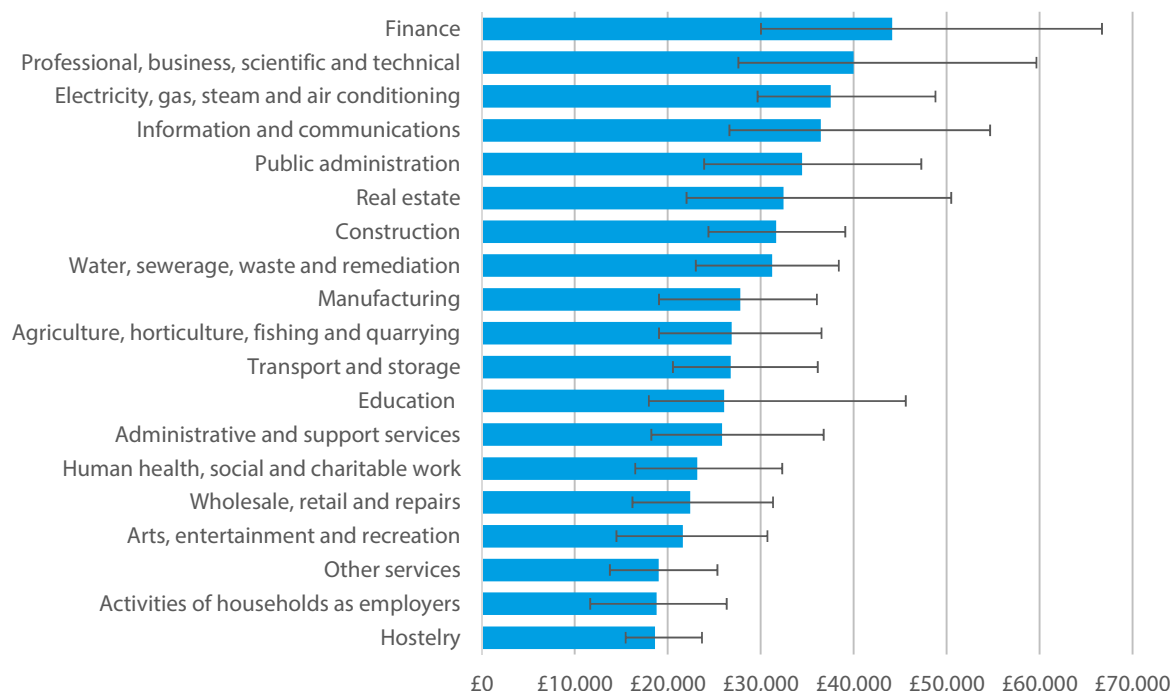


Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017.

States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

Median earnings were £31,773 in Guernsey (as at 31 March 2017) and £23,609 in Alderney (as at 31 March 2016).²³ Median earnings by sector for Guernsey are shown below (equivalent data for Alderney were not available).

Figure 16. Median Earnings, by sector in Guernsey (with lower and upper quartile range)



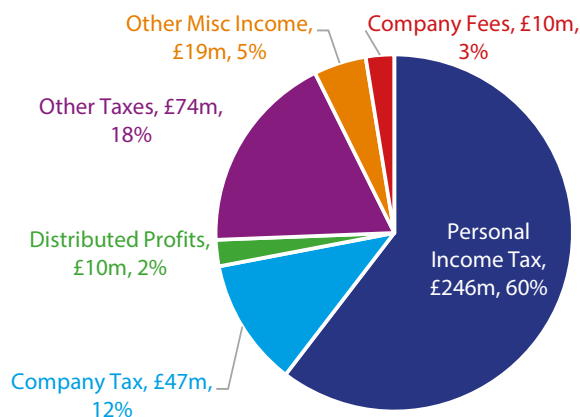
Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017.

²³ States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017.

2.3.3 Government Budget for the States of Guernsey

In 2016 the States of Guernsey received £407 million in general revenue income and further £37.4 million in operating income, £10.5 million in capital income.²⁴ As shown in Figure 17, personal income tax was the largest single source of revenue, yielding £246 million; a further £47 million was raised in company tax revenue.

Figure 17. Government Revenue Income



Source: States of Guernsey 2016 Government Accounts

Gross revenue expenditure was £400.5 million in 2016, and there was a further £60.4 million in formula led expenditure (which includes the cost of Social Insurance and Health Service grants). Net revenue expenditure for the Committee for Employment & Social Security was £70.2 million. There were 2,327 households receiving almost £21 million in supplementary benefit at the end of 2016.

²⁴ States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016.

3. Methodology

3.1 Actuarial Model

3.1.1 Projecting the States-facilitated Secondary Pension Scheme

The pension scheme projections model the impact of the introduction of the Secondary Pension Scheme over a 50 year period (from 2020 to 2069). The projections have been carried out for the States-facilitated Secondary Pension Scheme and do not include any alternative qualifying schemes.

3.1.2 Approach to projecting the States-facilitated Secondary Pension Scheme

The pension scheme model projects the future size of the States-facilitated fund over each year into the future over the 50 year time horizon. Assumptions are then varied in order to illustrate the sensitivity of the results to changes to a range of different assumptions. The assumptions underlying the projections are set out in the Section 3.4.

The following approach to the modelling has been adopted:

- The population has been split up into groups of individuals with similar characteristics
- A population profile has been created, consisting of model points representing each group of individuals (including those not yet born)
- Each model point has been projected into the future, in order to establish the expected contributions payable and the benefits expected to be received
- Results for the entire pension scheme have then been constructed from the model points by applying appropriate weightings

3.1.3 Model points

The model points represent an “average” individual within each population group. There is a separate group for each of the following factors:

- Age
- Income band
- Social Insurance Classification (employed, self-employed and non-employed)

3.1.4 Projecting individuals

In order to project future contributions and benefits for each model point, assessable income is projected up to retirement. The income projection is derived by considering the age dependent income percentiles of the current population and applying the same pattern of growth as the income percentiles imply (i.e. if a member is a median earner for their current age then they will continue as a median earner throughout their working lifetime).

The pension fund is accumulated in line with the investment return assumption. This assumption includes an Annual Management Charge (AMC) of 0.5% per annum. The investment return is assumed to reduce gradually over the period approaching retirement, in anticipation of members taking lower investment risk.

At retirement, a lump sum benefit is calculated and the remaining funds are converted into pension using expected market annuity rates. The model allows for the planned increases to the States pension age (see Section 2.1).

3.1.5 Constructing the scheme population

The individual projections for each model point were combined by applying weightings, reflecting the proportion that each model point represents of the total population. The weightings are adjusted to allow for

changes to the population over time, as provided by the States' General Economic Model under the States' central population projection assumptions.

When combining the results, the model applies the opt out rates and assigns the proportion of contributions and benefits which are expected to fall within the States-facilitated scheme (i.e. it excludes those expected to fall within existing occupational schemes and new qualifying schemes set up by employers).

3.1.6 Additional modelling to feed into the economic impact assessment

The economic impact assessment requires projections of pension benefits for any new pension income arising directly as a result of the Secondary Pension Scheme. In order to do this, the actuarial projections model is used to generate results that include both the States-facilitated scheme and all new alternative qualifying schemes.

3.2 Economic Impact Assessment

The economic impact assessment examines the introduction of the Secondary Pension Scheme compared to 'doing nothing' (i.e. Secondary Pension Scheme is not introduced) over a 50 year period (from 2020 to 2069).²⁵ It focuses on the marginal impact and does not differentiate between whether the individual contributes to the States-facilitated scheme or alternative qualifying schemes.

3.2.1 Conceptual Framework for Economic Impact Assessment

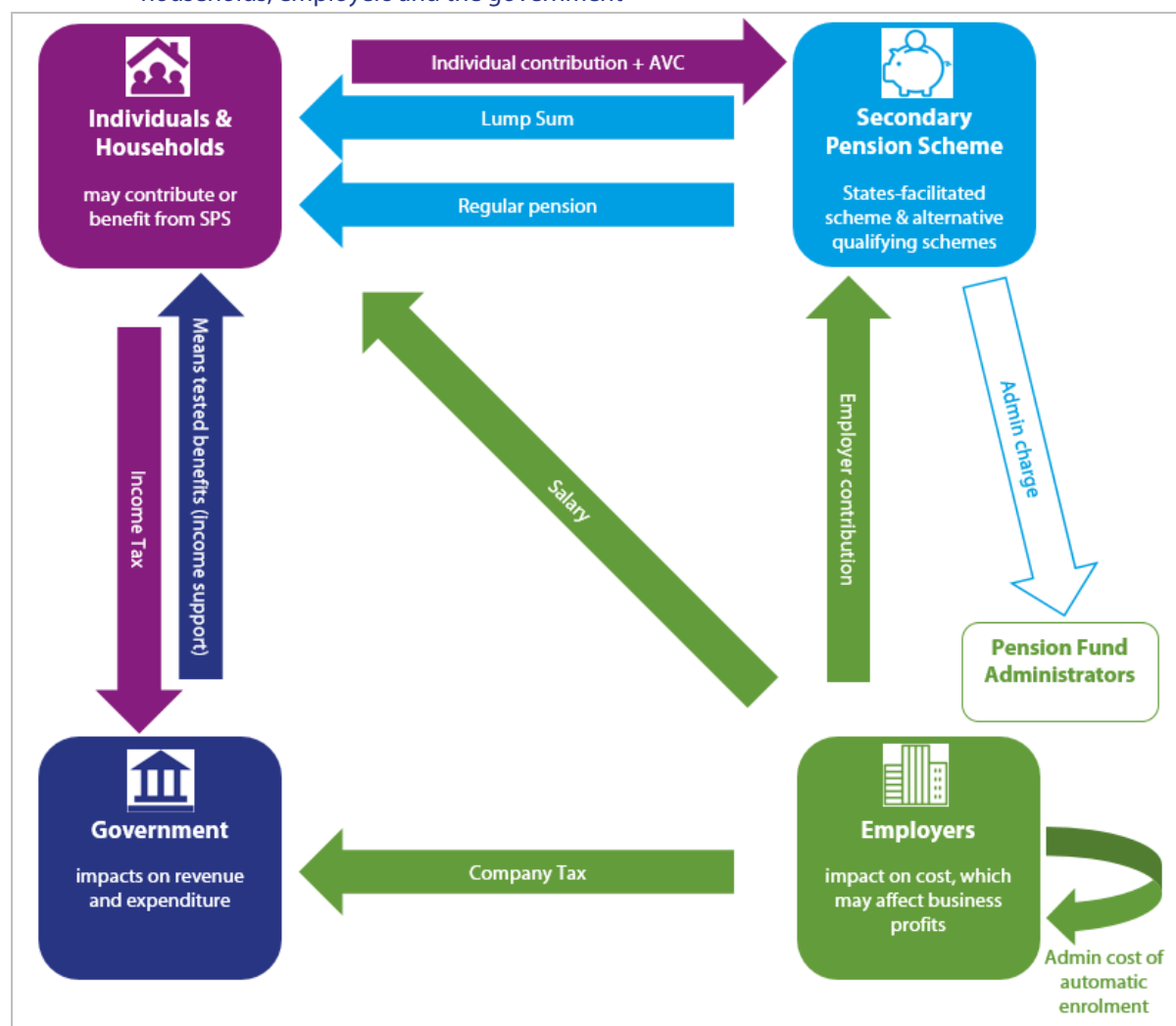
Figure 18 depicts the direct effects of the Secondary Pension Scheme on the financial flows that occur between individuals/households, employers and the government. These effects are summarised below and described in further detail in Sections 5-8 of the report.

Impact on individuals and households (see Section 5)

- Individuals of working age who meet the eligibility criteria and are not already in an occupational pension will be automatically enrolled into the Secondary Pension Scheme. Individuals who are automatically enrolled will be allowed to opt out.
- Individuals who pay income tax and contribute to a Secondary Pension Scheme will pay less in income tax since pension contributions will be tax exempt.
- Individuals of pensionable age who have contributed to a secondary pension would benefit from regular pension income when they reach the States pension age. They may then pay more in income tax, since the pension income will be included in their income tax assessment.
- Household income may be affected by the Secondary Pension Scheme. However, this will depend on household composition and whether household members contribute to or benefit from the Secondary Pension Scheme. The proportion of pensioners requiring income support (currently supplementary benefit and rent rebate) and any other means-tested benefits may also be reduced as they benefit from a secondary pension income. The income of working age individuals on income support is unlikely to be affected as pension contributions are included when calculating the benefit and income support may be increased.

²⁵ The results of the economic model would not be significantly affected by minor delays to the start date.

Figure 18. Direct effect of the Secondary Pension Scheme on financial flows between individuals and households, employers and the government



Impact on Employers (see Section 6)

- Employers will be required to make the minimum employer contribution for employees who do not opt out of the Secondary Pension Scheme.
- Employers may also incur administrative costs to comply with the legislation.
- The impact on the employer will depend on whether they already offer an occupational pension, salary levels, and how the employer responds to the policy change.

Impact on the Government Budget (see Section 7)

- Government revenue from personal income tax will be affected. Secondary pension contributions and any lump sum benefit payments are expected to be exempt from tax; regular pension income may be taxed and will be included in individuals' income tax assessment.
- Government revenue from company tax may also be affected if employers are unable to recover the costs relating to the Secondary Pension Scheme (through cost savings elsewhere, sales revenue or productivity gains) and company profits are reduced.

- As individual and household incomes increase in the pension age population, government expenditure on income support may be reduced. However, it is also expected that there would be an increase in the amount of income support paid to working age individuals, since the eligibility assessment for income support allows for pension contributions.

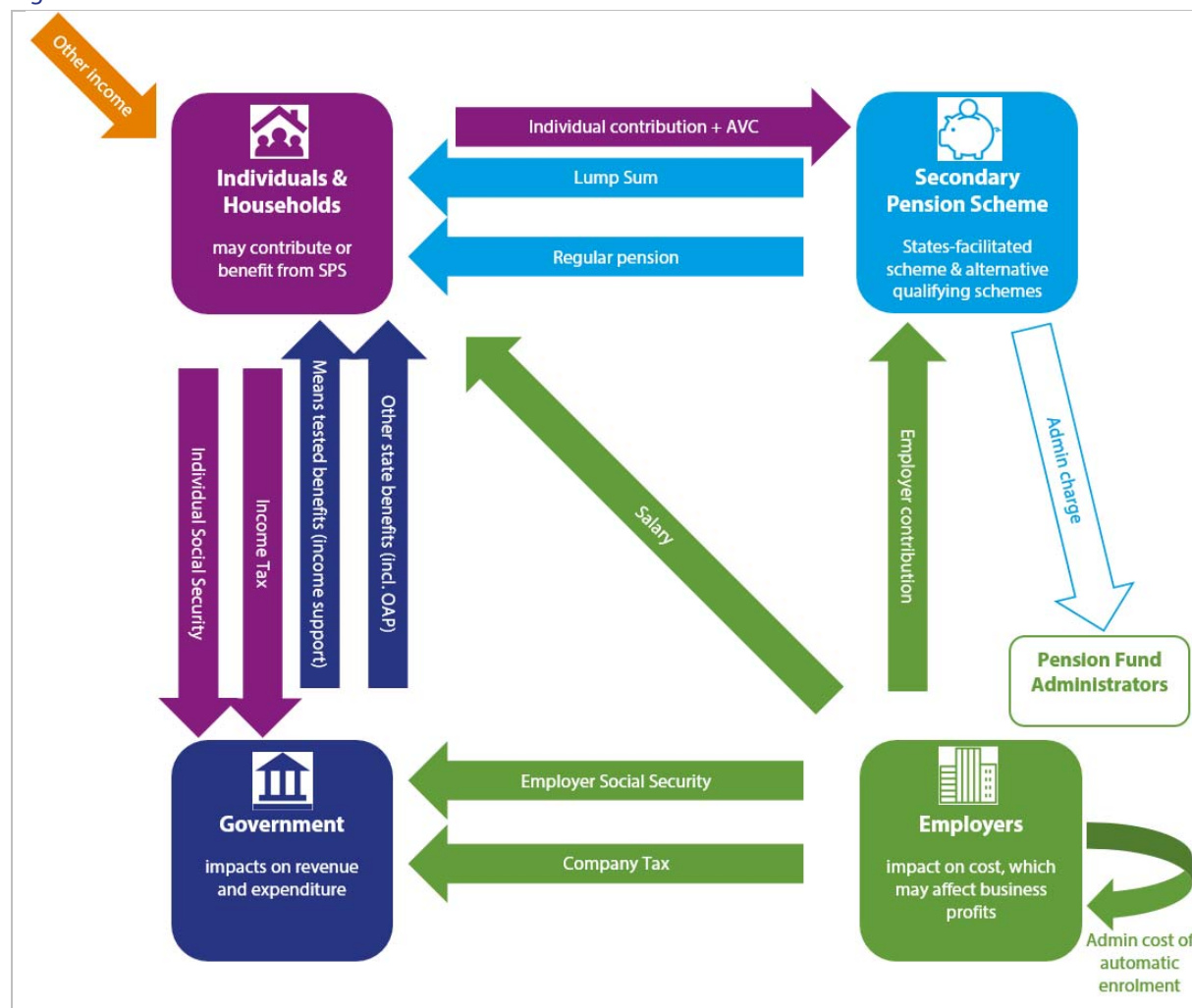
Impact on the Economy (see Section 8)

- Consumption (i.e. consumer spending) will be affected, as household disposable income is expected to change. An increase in disposable income would be expected to increase consumer spending, while a reduction in disposable income would be expected to lead to a reduction in consumer spending.
- It may also impact on economic growth, as this is a function of consumption, investment, government spending, and the value of exports less imports.
- The economic impact will evolve over time. In the short- to medium-term the costs will outweigh the benefits, as there will be many more contributors than beneficiaries. As time passes, the number of beneficiaries will increase. The amount an individual can expect in pension income as a result of the Secondary Pension Scheme contributions will also increase, since pension income is a function of the amount paid into the scheme and the investment return achieved. A steady state is expected to be achieved by the end of the century.

3.2.2 Economic model

The marginal impact of the Secondary Pension Scheme is estimated by comparing a future scenario in which the scheme is introduced to a scenario of 'doing nothing'. Estimating the magnitude of these impacts requires certain assumptions about how individual, employers and consumers behave, as well as about the wider policy environment. The structure of the economic model is illustrated in Figure 19.²⁶

Figure 19. Elements of the Economic Model



²⁶ Note – differs slightly from conceptual framework as does not include the pension fund administrator and needs to include other income and social security

3.2.3 Economic model for impact on individuals, households and government finances

The economic model has been structured to take into account the following inputs:

- Year (and corresponding contribution rate) from 2020 to 2069.
- Age profile of the population, and projected population changes
- Employment status of the working age population, as defined by social insurance classification: employed, self-employed and non-employed.
- Assumptions about the percentage of employees who are active members of an existing occupational pension
- Gross taxable income (and source of income)
- Household composition
- Proposed changes in the States pension age
- Prevailing tax and benefit rates and allowances
- Assumptions about the opt out rate

The model uses data provided from the Electronic Census in Guernsey and Alderney, population projections supplied by the States of Guernsey, and official States publications.

The model includes 80 profiles for individuals of working age, which are defined by:

- Gross taxable income: 20 income bands
- Social insurance classification: employed, self-employed, non-employed
- Whether employees are an active member of existing scheme: yes or no

Pension age profiles are defined by gross taxable income and take into account an individual's age and the year as these factors determine the pension income that an individual can expect from the Secondary Pension Scheme.

The profiles are combined to estimate the overall impact of the Secondary Pension Scheme using population weights. The weight assigned to each profile is derived from population projections supplied by the States of Guernsey and the 2014 Electronic Census dataset. The income and employment profile of the working age population is assumed to remain constant over time in the 'do nothing' scenario. The income profile of the pension age population is assumed to remain constant over time in the 'do nothing' scenario. Thus, changes in income that arise if the Secondary Pension Scheme is introduced can be attributed to it.

The economic model predicts the following outputs for each year of the projection:

- Number of individuals who are eligible to join the scheme
- Number of individuals who are active members of an existing occupational pension
- Number of new members of a secondary pension (auto-enrolled by employer or Social Security)
- Number of new members who opt out of the Secondary Pension Scheme
- Total income tax due
- Total social security contributions
- Individual and employer pension contributions
- Change in net income (gross taxable income less income tax, social security and pension contributions)
- Change in eligibility for means-tested benefits, and estimated change in income support payments

The model has been structured to enable sensitivity analysis on key parameters, as set out in Section 3.4. The model is comprehensive and, with some adaption, could be used to assess the economic impact of other changes to the tax and social security system.

3.2.4 Economic Model for Impact on Employers

The model predicts the impact on employers of different sizes and the impact on company tax revenue (which depends on sector). It has been structured to take into account the following inputs:

- Year (and corresponding contribution rate) from 2020 to 2069.
- Economic sector
- Employer size (i.e. number of employees)
- Assumption about the availability of existing occupational pensions
- Fixed and variable administration costs incurred by employers
- Mean employment income by economic sector
- An opt out rate
- Prevailing company tax rate
- Assumptions on the proportion of costs borne by the employer and ability of employers to recover costs incurred through productivity gains.

It has also been assumed that the Secondary Pension Scheme will be rolled out to all employers at the same time given the prevalence of micro and very small employers (82% of employers in Guernsey and Alderney have 10 or fewer employees).²⁷ Changes to the implementation start date, or adopting a staged implementation, would have a relatively minimal impact on the overall model results.

The model uses employment and earnings data published by the States of Guernsey and Alderney. Electronic Census data from Guernsey and Alderney were used to validate assumptions about the existing availability of occupational pensions by economic sector and employer size.

The model includes 116 profiles for employers, which combined data on economic sector and employer size. The profiles are combined to estimate the overall impact of the Secondary Pension Scheme in Guernsey and Alderney using employer weights. The weight assigned to each profile is taken from published data on the number of employers by sector and size for Guernsey and Alderney.

The economic model predicts the following outputs for each year of the projection:

- Number of new employers who offer a Secondary Pension Scheme (either the States-facilitated scheme or an alternative qualifying scheme)
- Number of employees who are automatically enrolled to a Secondary Pension Scheme
- Number of employees who opt out
- Individual and employer pension contribution
- Administrative cost incurred by employers
- Total cost of the Secondary Pension Scheme on employers
- Potential reduction in company profits
- Expected loss in company tax revenue

The model has been structured to enable sensitivity analysis on key parameters, as set out in Section 3.4.

²⁷ If a staged roll out were desired, then it may be preferable to stage by economic sector than by employer size.

3.3 Data Sources

We were provided anonymised individual level data from the Electronic Census for 2014, which contained data from 76,757 individual income tax and social security records. Raw data were cleaned following the steps set out in the Guernsey Household Income Report²⁸ and with advice from Data and Analysis, States of Guernsey. The clean dataset has records for 58,010 individuals from Guernsey and Alderney. These represent 36,905 adults of working age, 11,500 adults aged 65 and over and 23,109 households. Monetary values have been inflated to 2017 terms using RPIX²⁹. Missing data were accounted for in the analysis using population weights that take into account social insurance classification and age category.

Table 5. Cleaned Electronic Census Data vs Annual E-Census Reports for Guernsey and Alderney

	Published Statistics (as at 31 March 2016)			Clean E-Census Data (as at 31 Dec 2014)	
	Guernsey	Alderney	Combined	N	% missing
Children 0-15 years	10,155	202	10,357	9,605	7%
Working Age (16-64 years)	40,638	1,133	41,771	36,905	12%
Employees	27,764	633	28,253	28,253	<1%
Self-employed	3,131	148	3,279	3,121	5%
Non-employed	9,743	352	10,095	5,531*	45%
Pension Age (65 years +)	11,930	700	12,630	11,500	9%
TOTAL	62,723	2,035	64,758	58,010	10%

* of whom 658 made SI contributions in 2014

²⁸ States of Guernsey (2017). Guernsey Household Income Report, which reports on 22,209 households in Guernsey as at 31 December 2014. Appendix 1.

²⁹ States of Guernsey (2017). Guernsey Quarterly Inflation Bulletin Quarter 2 2017. Issue date 21 July 2017.

3.4 Assumptions for modelling

The actuarial and economic models are based on the following assumptions.

3.4.1 Secondary Pension Scheme Structure

Feature	Assumptions	Sensitivity	Justification
Launch date	2020	N/A	February 2016 Billet
Potential membership	Individuals of working age who pay Social Security contributions	N/A	February 2016 Billet
Contributions Structure (% of gross salary up to Upper Earnings Limit)	Employed, self-employed and non-employed: Initially 1%, increasing to 6.5% over 7 years, no additional voluntary contributions Employer: 1% initially, increasing to 3.5% over 7 years	N/A	February 2016 Billet
Retirement Age	Increasing with increases in States Pension Age (66 years from 2025, 67 years from 2031, 68 years from 2037, 69 years from 2043 and 70 years from 2049)	N/A	February 2016 Billet

3.4.2 Population Projections

Feature	Assumptions	Comment
Population projections	Generated by the States General Economic Model using the States of Guernsey's central projection assumptions	Projections over 2020 – 2069
Working age population	Retirement age increases with increase in States Pension Age to 70 by 2049	States agreed policy
Employment status of the working age population	67% are employed, 8% are self-employed, 25% are non-employed (of whom 7% earn above the lower earnings limit)	Guernsey Quarterly Population, Employment and Earnings Bulletin. Alderney Electronic Census Report 31 March 2016. Electronic Census Data

3.4.3 Behavioural Assumptions

Parameter	Assumption	Sensitivity	Comment
Opt-out rate	20%	10%, 15%, 25%, 30%	This is a key assumption and UK experience has shown that it is difficult to predict. See Appendix 11.1 for more details.
Persistency	100%	None	Simplifying assumption. Once employees are enrolled and contributing they are assumed to continue to contribute until States Pension Age.
Lump sum at retirement	25%	± 5%	The maximum permitted under current tax legislation is 30%. The availability of tax-relief on the lump sum is expected to make it a popular option.
Proportion of employers who use an alternative qualifying scheme (rather than the States-facilitated scheme)	50%	± 20%	This is difficult to estimate due to the lack of available data.
Proportion of employees who are existing active members of an occupational pension	32% on average, though the model uses a % that varies by gross taxable income (see Appendix 11.2)	Lower and upper estimates in which base case values are scaled up and down by 10% (i.e. 28% to 36% on average)	Income Tax records from 2014 on proportion of employees contributing to an occupational pension, adjusted based on an assumption that 20% of private sector schemes are non-contributory. See Appendix 11.2 for more details.
Proportion of employers who currently offer an occupational pension	% varies by sector and employer size (see Appendix 11.3)	None, but have varied % of employees who are existing active members.	Estimate based on published data on Employment and Earnings and on the proportion of employees who are active members of an occupational pension. See Appendix 11.3 for more details.
Employer response	100% costs borne by employer	50% costs borne by employer	This is difficult to predict. Model the worst case and a moderate scenario in which employers reduce future pay awards.
Marginal propensity to consume (marginal change on consumption following a change in income)	0.8	0.6, 1	2012-13 Household Expenditure Survey reported expenditure was 74% of mean total household income, and 90% of median household income. A study on the economic and fiscal impact of the increasing the minimum wage in Jersey assumed lower earners would spend all additional income.

3.4.4 Financial and Economic Assumptions

Parameter	Assumptions	Sensitivity	Comment
Investment return on Secondary Pension Scheme	<ul style="list-style-type: none"> RPIX +2.5% per annum up to 10 years before retirement Transitioning to RPIX in the last 10 years prior to retirement 	± 1%	A move to a lower risk / return strategy is assumed as an individual approaches retirement age. See Appendix 11.4 for more details
Earnings Growth	<ul style="list-style-type: none"> Increase at the rate of inflation RPIX + 1% per annum Promotional increases to maintain existing salary profile of the population by age 	± 0.5%	As advised by the States
Conversion of funds into pension at retirement	<ul style="list-style-type: none"> Market annuity rates 	None	Current market rates for a level single life annuity will be adjusted to allow for expected future improvements in mortality. Conversion terms at age 70 in 2020 are assumed to be 6.2%, and in 2069 are assumed to be 5.1%.
Tax and Benefit Rates and Allowances	<ul style="list-style-type: none"> Tax and social security rates remain constant Tax and social security allowances increase in line with earnings growth Benefits increase RPIX plus at 1/3 of real earnings growth until 2024 and then at RPIX Income support (which combines supplementary benefit and rent rebate) is introduced as planned. 	None	Benefit Payment & Contribution Rates for 2017 no. 50. March 2016 Billet Increases as advised by the States
Economic conditions	<ul style="list-style-type: none"> Underlying economic conditions remain stable over analysis period 	N/A	Simplifying assumption so changes in the model reflect the impact of the Secondary Pension Scheme

3.4.5 Other Assumptions

Feature	Assumptions	Sensitivity	Justification
Administrative costs for employers	Year 1: fixed cost of £500 per firm + variable cost of £25 per employee Thereafter: £200 per firm + £10 per employee	± 50%	Based on UK experience of small and medium employers. See Appendix 11.5

4. Size of States-facilitated Secondary Pension Scheme

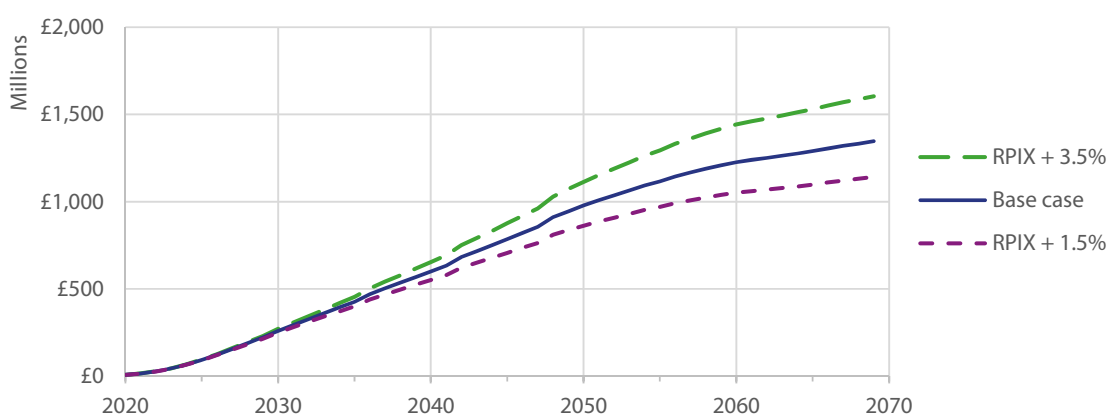
The States-facilitated Secondary Pension Scheme is projected to have assets of around £1.3 billion after 50 years, under the assumptions set out in Section 3.4. The results are sensitive to the assumptions chosen and the charts illustrate how the results change when certain key assumptions are changed. In each graph the “Base Case” assumptions are shown as the dark blue line.

The size of the fund is expected to begin to stabilise by the end of the 50 year period, when the benefit payments reach a level which broadly balances the total of the contribution income and investment returns. This is due to the maturing nature of the scheme, with benefit payments being lower in earlier years since those receiving benefits in the early years will not have contributed for their entire working life. The Secondary Pension Scheme is expected to reach an equilibrium towards the end of the projection period. From that point, the size of the fund is expected to increase in line with the population-related real growth in income, which is 1% per annum for the base case assumption.

4.1 Sensitivity to Investment Return

The size of the fund is sensitive to the investment returns achieved. Figure 20 shows that if investment returns are 1% per annum higher than assumed then the fund size is projected to be 19% higher after 50 years (the base case assumption is broadly an investment return of RPIX + 2.5% per annum). If investment returns are 1% per annum lower than assumed then the fund size is projected to be 15% lower after 50 years.

Figure 20. Fund size for States-facilitated scheme: sensitivity to investment return



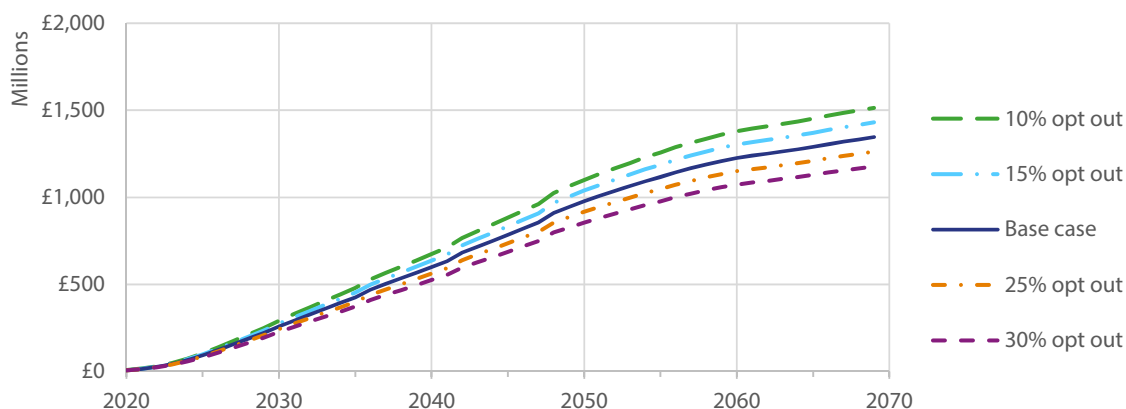
In addition, as the investment return assumption is net of the Annual Management Charge (AMC), Figure 20 also effectively illustrates the sensitivity of results to changes to the AMC. This is because an increase to the AMC has the same effect as a reduction to the investment return assumption (and vice versa). For example, a reduction to the investment return assumption of 1% per annum (i.e. RPIX + 1.5% per annum, the purple line on Figure 20) could also result from an increase to the AMC assumption of 1% per annum (i.e. from an AMC of 0.5% per annum to an AMC of 1.5% per annum).

This illustrates that it will be important to keep the expenses of the Secondary Pension Scheme (whether expressed as just an AMC or an AMC in conjunction with other expense types) as low as possible to maximise the funds available to provide retirement benefits.

4.2 Sensitivity to Opt Out Rates

As Figure 21 shows, if only 10% of employees opt out of the scheme then the fund size is projected to be 13% higher each year (the base case assumption is that 20% of members will opt out of the scheme). If 30% of members opt out of the scheme then the fund size is projected to be 13% lower each year.

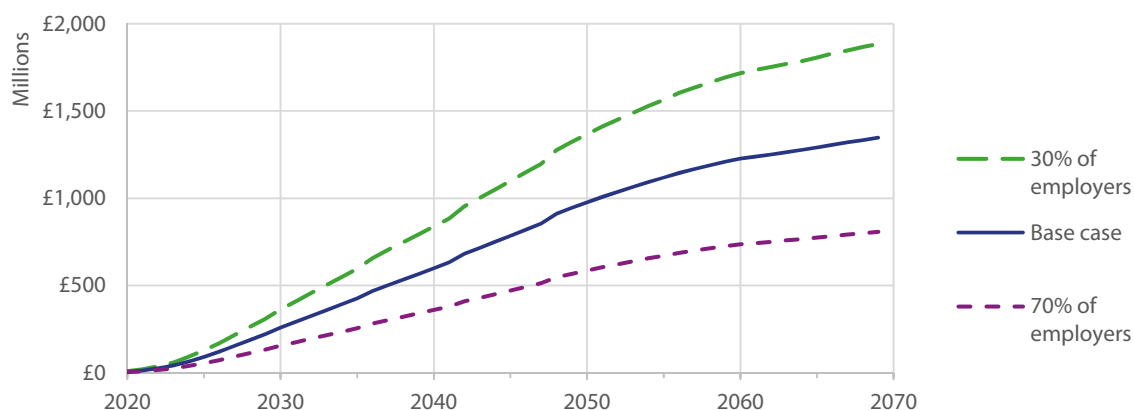
Figure 21. Fund size for the States-facilitated Scheme: sensitivity to opt out rates



4.3 Sensitivity to Employer's Choice of Scheme

Figure 22 shows that if 30% of employers set up their own qualifying scheme then the States-facilitated Secondary Pension Scheme fund size is projected to be 40% higher each year (the base case assumption is that 50% of employers set up their own qualifying scheme). If 70% of employers set up their own qualifying scheme then the fund size is projected to be 40% lower each year.

Figure 22. Fund size for States-facilitated Scheme: sensitivity to the percentage of employers setting up their own scheme



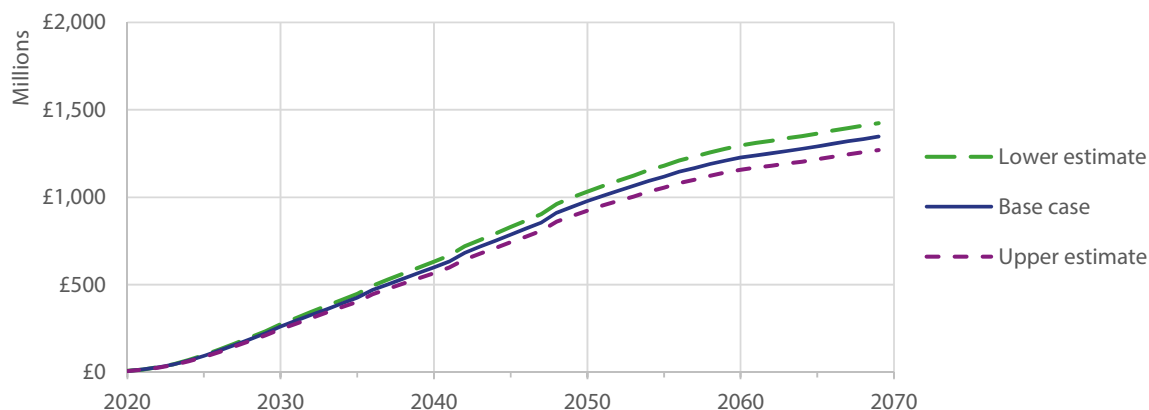
Of all of the sensitivities considered relating to the projected fund size of the States-facilitated Secondary Pension Scheme the proportion of employers who opt to use it is critical.

If the process to select the States-facilitated scheme is kept simple and assistance for employers is readily available this is likely to maximise the take up rate.

4.4 Sensitivity to Employees Already in an Occupational Pension Scheme

Figure 23 illustrates that if the lower estimate for the number of employees with an existing occupational scheme is used then the fund size is projected to be 6% higher each year (the base case assumption is an income related scale, as set out in Section 11.4). If the upper estimate for the number of employees with an existing occupational scheme is used then the fund size is projected to be 6% lower each year.

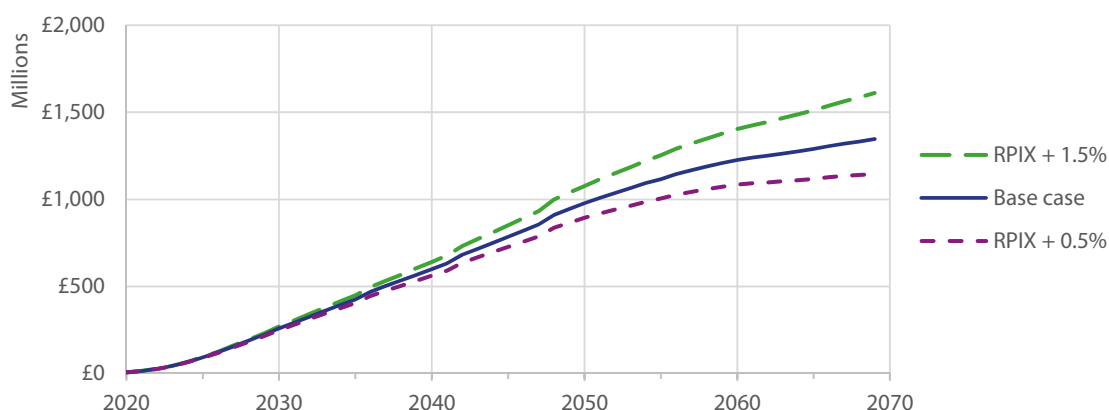
Figure 23. Fund size for States-facilitated scheme: sensitivity to the percentage of employees with existing occupational pension



4.5 Sensitivity to Income Growth

The size of the fund is sensitive to the growth in income. The growth in income can be separated into two elements. An age-related growth expected to be experienced by an individual as they get older (eg promotional growth for employees). In addition, the population as a whole can experience growth in incomes (ie a population-related growth). Figure 24 shows the sensitivity of the size of the fund to the population-related growth in income. It shows that if the population-related growth in income is 0.5% per annum higher than assumed then the fund size is projected to be 20% higher after 50 years (the base case assumption is a population-related growth in income of RPIX + 1.0% per annum). If the population-related growth in income is 0.5% per annum lower than assumed then the fund size is projected to be 15% lower after 50 years.

Figure 24. Fund size for States-facilitated scheme: sensitivity to the population-related growth in income



5. Economic Impact on Individuals and Households

The Secondary Pension Scheme will have a marginal impact on both the income and tax paid by individuals and households. This section describes the impact of the Secondary Pension Scheme on working age individuals, pension age individuals and on households. In summary:

- Working age individuals, who are not already in an occupational pension scheme, will see a reduction in their disposable income. However, they will also pay 20% less in income tax, since the pension contribution is deducted from income before tax is calculated. For most individuals the reduction in net income will be 80% of their pension contribution. However there will be some individuals whose income is less than the personal allowance and therefore will not benefit from the tax saving.³⁰
- Pension age individuals who have contributed to a Secondary Pension Scheme would benefit from secondary pension income when they reach the States pension age. They may pay more in income tax, since pension income is included in individual income tax assessment.
- The impact on household income will depend on its composition and whether household members contribute to, or benefit from, the Secondary Pension Scheme. Individuals who are eligible for income support may receive additional income support payments as pension contributions are taken into account in the income support assessment. There are also likely to be fewer pension age individuals eligible for income support as they will be receiving income from a secondary pension.

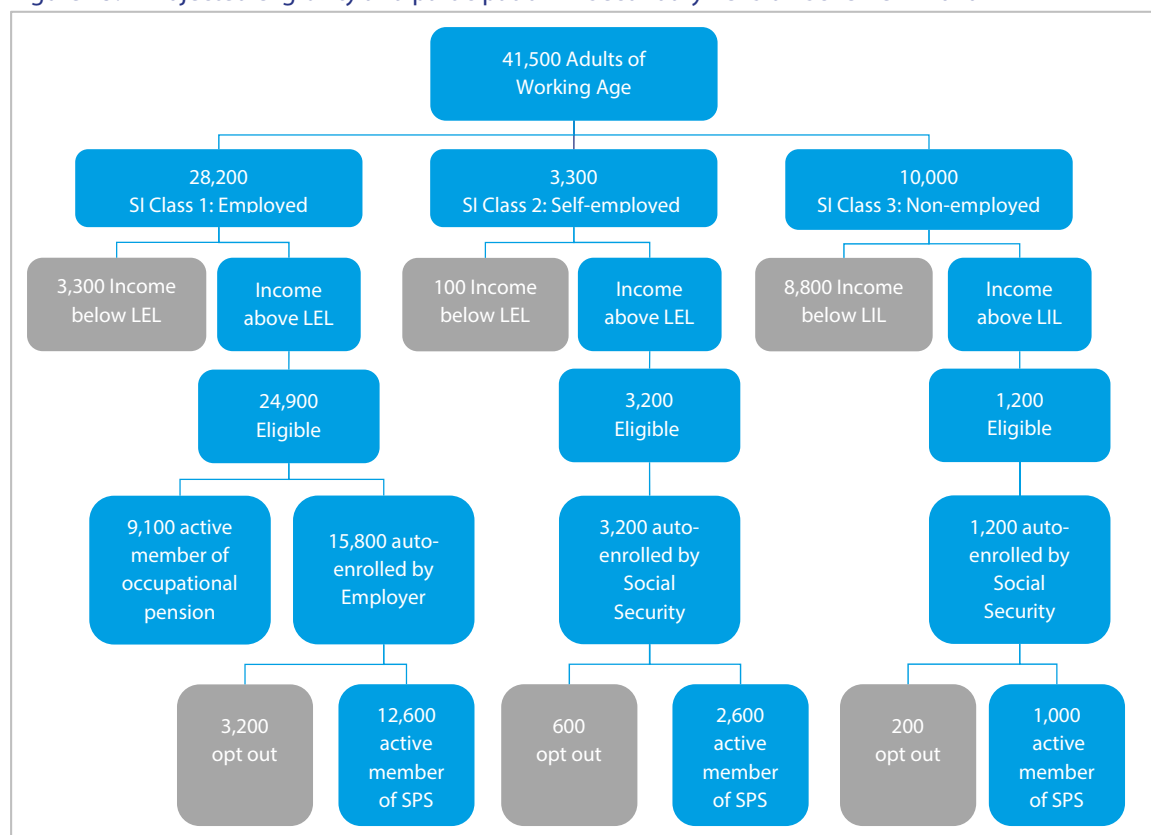
³⁰ The proposed phasing out of most of the pension contribution tax relief for high earners in the 2018 Budget proposals has not been taken into account in the modelling.

5.1 Impact on Working Age Individuals

5.1.1 Number of Individuals Eligible to join the Secondary Pension Scheme ("SPS")

Figure 25 depicts the estimated eligibility and participation in the Secondary Pension Scheme in 2020 for 41,500 adults of working age.³¹ We estimate that 29,300 individuals (aged 16-64 years) will be eligible to join the Secondary Pension Scheme, which represents 70% of the projected working age population. This includes 9,100 working age individuals who are already in an occupational pension (32% of employees, or 22% of all working age adults). Thus, we expect 20,200 individuals would be automatically enrolled into either the States-facilitated scheme or an alternative qualifying scheme following the introduction of the Secondary Pension Scheme. With an opt out rate of 20%, it is expected that 16,200 individuals will join a secondary pension for the first time.

Figure 25. Projected eligibility and participation in Secondary Pension Scheme in 2020



Note: Figures rounded to nearest 100.

³¹ SOG population projection for Guernsey was 40,298 and this has been adjusted by a factor of 1.03 to include an approximate allowance for the population in Alderney.

As Figure 26 shows, in 2020 the introduction of the Secondary Pension Scheme is expected to increase the number of working age adults who have a secondary pension from 9,100 (22% of working age adults) to 25,300 (61% of working age adults).

Figure 26. Impact of Secondary Pension Scheme on membership of secondary pensions among working age population in 2020

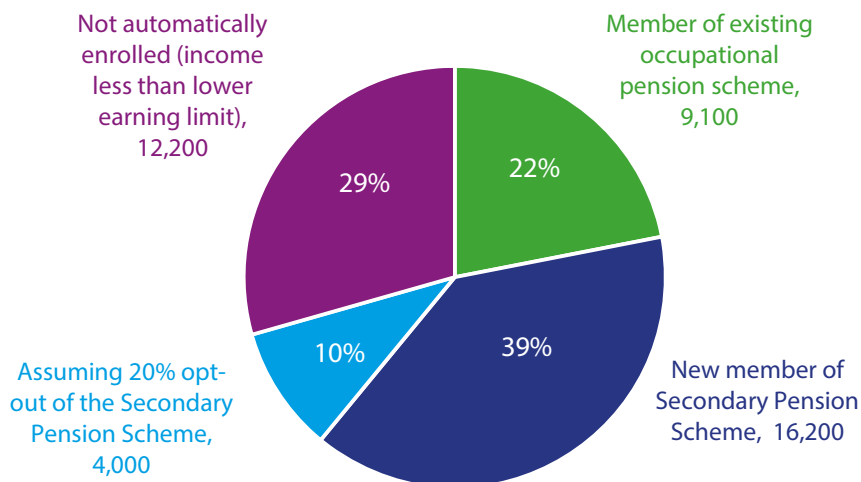
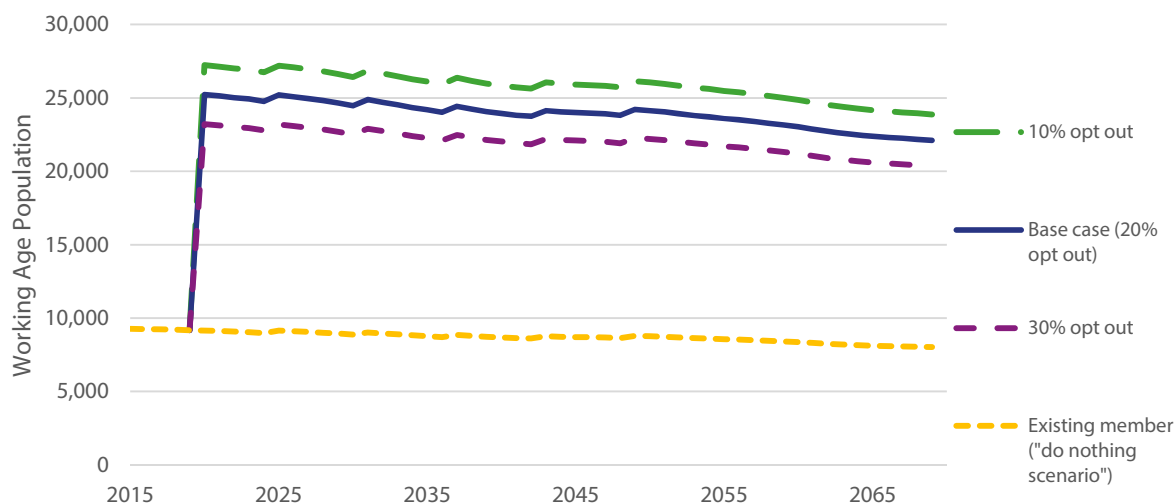


Figure 27 shows how the working age population saving for retirement is expected to increase as a result of the introduction of the Secondary Pension Scheme. The percentage in a pension scheme is expected to have increased from 22% (in the “do nothing” scenario) to 61% of the working age population.

Figure 27. Impact of Secondary Pension Scheme on number of working age individuals contributing to a secondary pension (2020-2069)



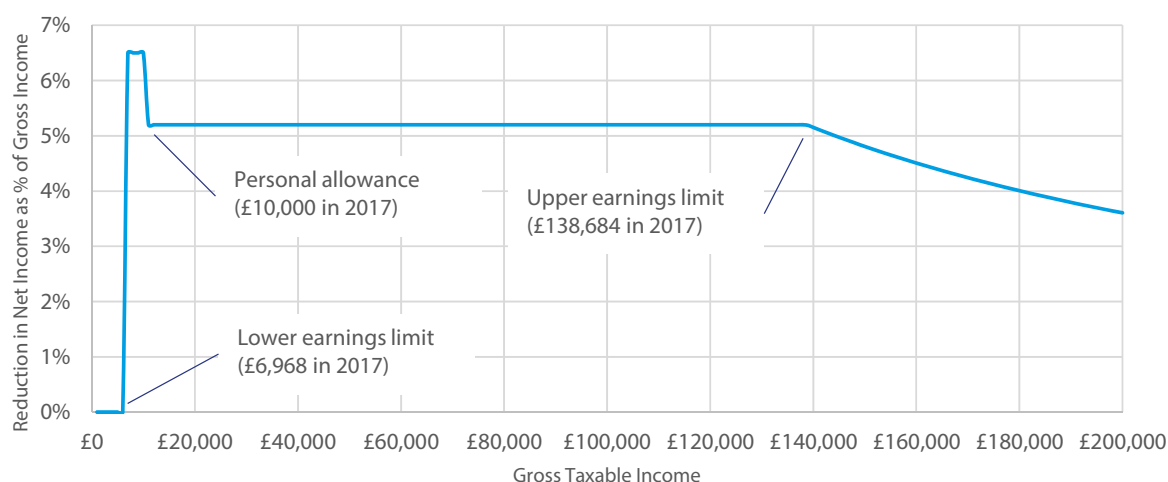
5.1.2 Impact on an Individual's Net Income

The amount an individual will contribute to the Secondary Pension Scheme will depend on their assessable income and the prevailing contribution rate (Table 1). The assessable income is calculated taking into account the individual's social insurance classification and income from employment, self-employment and other sources.

Working age individuals who participate in the Secondary Pension Scheme will see a reduction in their net income.³² As pension contributions are tax exempt³³, the reduction in net income is partly offset by a reduction in the amount paid in income tax.

Figure 28 shows the reduction in net income, expressed as a percentage of gross taxable income for different income levels, and a long-term individual contribution rate of 6.5%.

Figure 28. Reduction in net income, expressed as a percentage of gross taxable income



For the majority of individuals, who have income between personal allowance (£10,000 in 2017) and the UEL (£138,684 in 2017), the reduction in net income will be 80% of the pension contribution. Thus, once the contribution rate has reached 6.5%, individuals who contribute to a secondary pension will have a 5.2% reduction in net income. Individuals who have income below the personal allowance do not pay income tax and therefore would have a reduction equivalent to 100% of the pension contribution. This explains the peak on the line chart that occurs between the lower earnings limit and the personal allowance. Individuals who have income above the UEL will see a reduction of less than 5.2% since pension contributions are only paid on income up to the UEL. The maximum individual contribution would be £9,014 in (2017 terms). A person paying the maximum contribution would pay £1,803 less in income tax, so the net effect would reduce their income by £7,211. However, it is proposed that tax relief for those earning above the UEL is largely phased out in the 2018 budget.

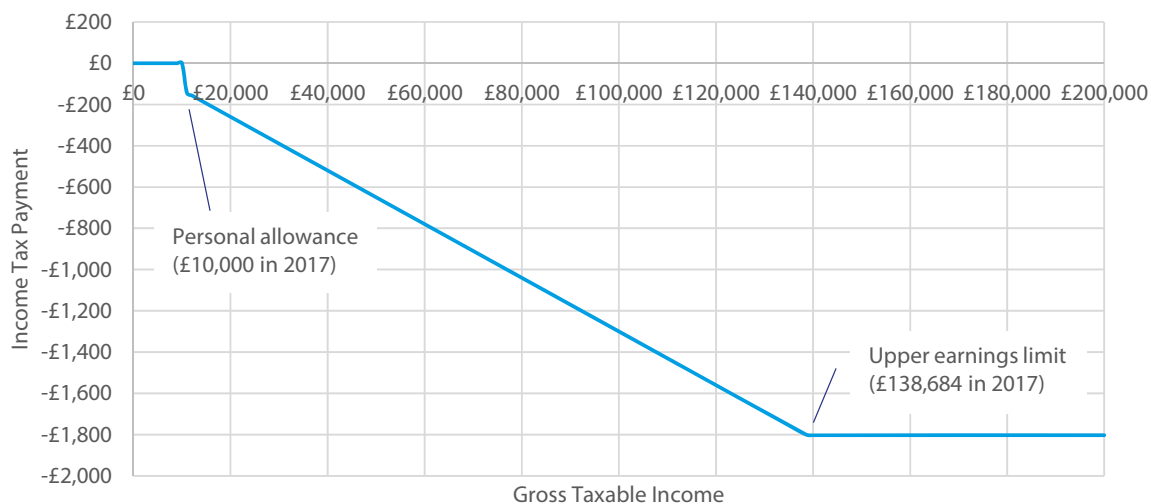
³² Net income is defined as gross taxable income less income tax, social insurance and pension contributions. Note, this definition does not include state benefits which are not assessed for income tax.

³³ In 2017 the maximum pension contribution that would be tax exempt is £50,000, though the 2018 budget has reduced this to £35,000.

5.1.3 Impact on Personal Income Tax Payment

Figure 29 shows the reduction in income tax paid by individuals on different income levels, based on a contribution rate of 6.5%.³⁴ As the graph shows, the tax saving is achieved when gross taxable income exceeds the personal allowance and continues up to the UEL.

Figure 29. Reduction in income tax at different levels of gross taxable income



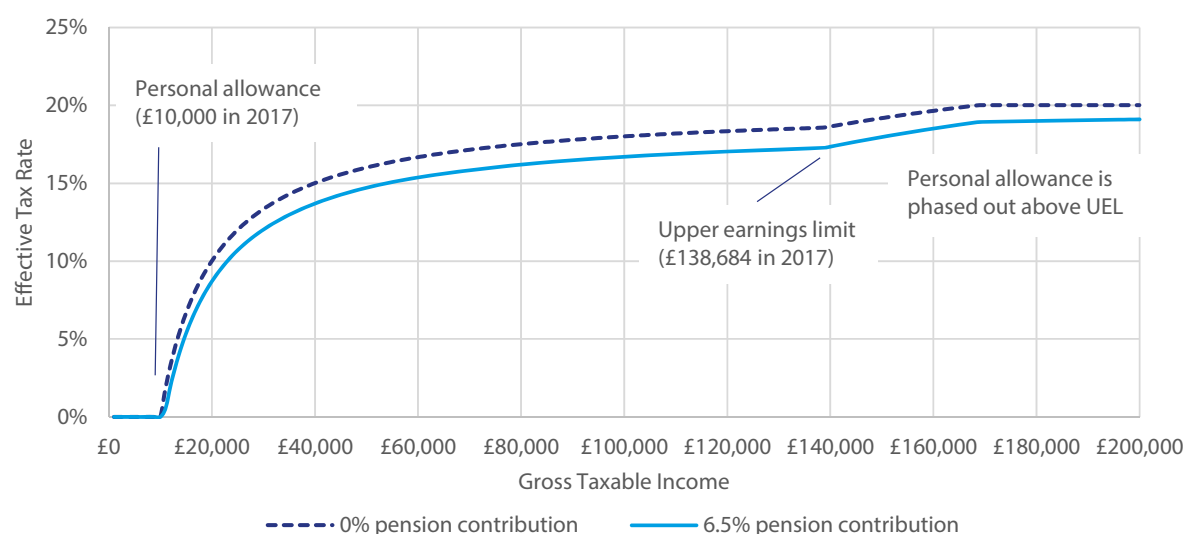
³⁴ This graph assumes all income is assessed when calculating the tax relief and does not illustrate the changes proposed in the 2018 Budget.

5.1.4 Impact on the Effective Tax Rate

The effective tax rate is an alternative metric for showing the impact of the Secondary Pension Scheme for different levels of income. The effective tax rate is the total amount of tax payable expressed as a percentage of gross income. It shows, for example, how the percentage of income paid in tax varies between the lowest and highest earners in society.

Income tax is paid once gross taxable income exceeds the personal allowance and increases up to a maximum level of 20%. The personal allowance is phased out once income exceeds the UEL, so that individuals earning above £168,684 (in 2017) pay income tax at 20% on all of their income. As tax relief is available on contributions up to the lower of 100% of earnings and £50,000, contributing to a secondary pension reduces the effective tax rate.³⁵ The impact is illustrated in Figure 30.

Figure 30. Impact of the Secondary Pension Scheme on the Effective Tax Rate



³⁵ The 2018 budget proposed some changes that are not shown here.

5.1.5 Illustrative Example: Employee with Gross Salary of £30,000 in 2020

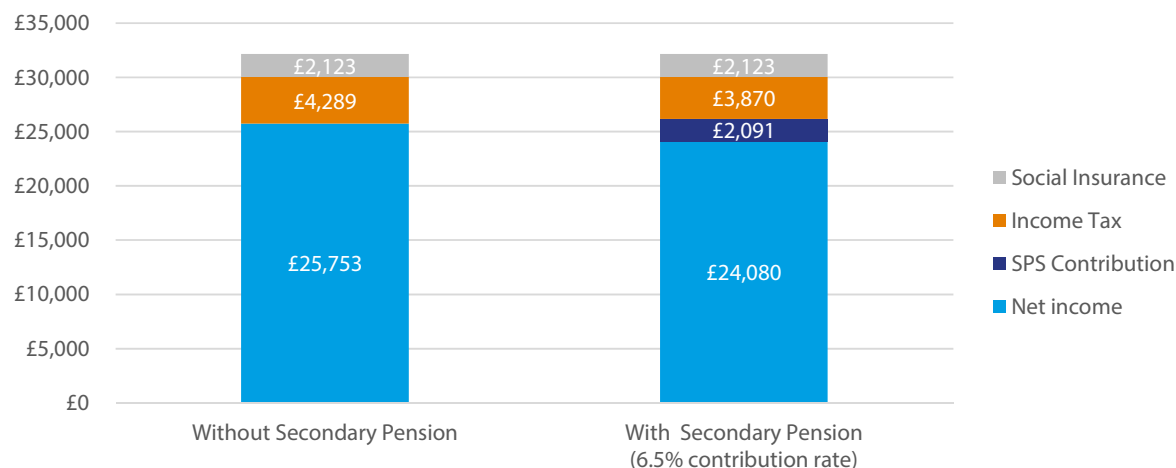
Table 6 shows how the Secondary Pension Scheme would affect an employee earning £30,000 in 2020³⁶ over the first eight years. From 2027 contribution rates will remain stable at 6.5% of eligible income. The results are presented in real terms, given the assumptions in the base case scenario.³⁷

Table 6. Net income for an employee with a gross salary of £30,000 in 2020

	2020	2021	2022	2023	2024	2025	2026	2027 onwards
Gross Income	£30,000	£30,300	£30,603	£30,909	£31,218	£31,530	£31,846	£32,164
Social Insurance	£1,980	£2,000	£2,020	£2,040	£2,060	£2,081	£2,102	£2,123
Secondary Pension Scheme Contribution	£300	£455	£612	£927	£1,249	£1,577	£1,911	£2,091
Income Tax	£3,940	£3,949	£3,958	£3,936	£3,913	£3,889	£3,864	£3,870
Net Income	£23,780	£23,897	£24,013	£24,006	£23,996	£23,984	£23,969	£24,080
Change in Tax Paid	(£60)	(£91)	(£122)	(£185)	(£250)	(£315)	(£382)	(£418)
Effective Tax Rate	13.1%	13.0%	12.9%	12.7%	12.5%	12.3%	12.1%	12.0%
Change in Net Income	(£240)	(£364)	(£490)	(£742)	(£999)	(£1,261)	(£1,529)	(£1,673)
Change in Net Income as % of Gross Income	0.8%	1.2%	1.6%	2.4%	3.2%	4.0%	4.8%	5.2%

In 2027, once the Secondary Pension Scheme has been fully rolled out, the employee will pay £2,091 into a secondary pension, but pay £418 less in income tax. Net income is reduced by £1,673 from £26,010 to £24,080. The impact is also illustrated in Figure 31.

Figure 31. Impact of the Secondary Pension Scheme on an employee with a gross salary of £30,000 in 2020 (i.e. £32,164 in 2027)



Section 5.2.3 discusses how membership of the Secondary Pension Scheme increases expected retirement income. An individual earning £30,000pa in 2020 is expected to be slightly below the median earnings level. The Secondary Pension Scheme could potentially increase their income at retirement age to around double what they would have received from the old age pension alone.

³⁶ Earnings are adjusted to for real earnings growth of 1%. The individual has no other sources of income and was not an existing active member of an occupational pension scheme

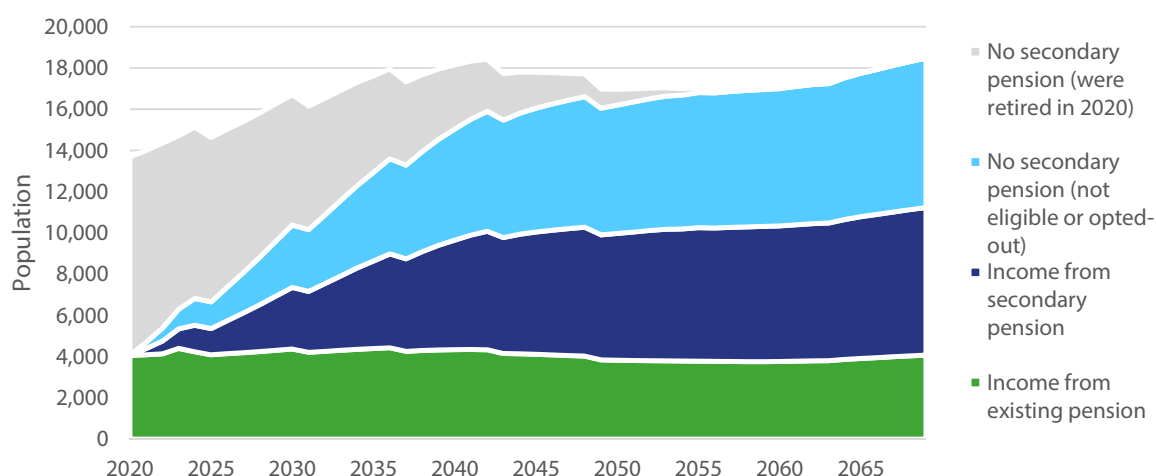
³⁷ Takes into account the personal tax allowance of £10,000 in 2020 (which is increased in line with real earnings). Mortgage interest relief has not been included in the calculations as it will be phased out by 2025.

5.2 Impact on Pension Age Individuals

5.2.1 Number of Individuals Expected to Benefit from Secondary Pension Scheme

The number of individuals who will be expected to benefit from the Secondary Pension Scheme will gradually increase over the next 50 years, as they reach the States pension age. As Figure 32 shows, the proportion of the pension age population who receive income from an occupational pension is expected to increase to 61% of the pension age population by 2069, compared with 22% currently. The remaining 39% either did not meet the criteria for automatic enrolment or are assumed to have opted out of the Secondary Pension Scheme.

Figure 32. Number of individuals with pension income in retirement following the introduction of the Secondary Pension Scheme



5.2.2 Impact on Income in Retirement

Individuals who contribute to the Secondary Pension Scheme will benefit from additional pension income in retirement. The amount of additional income will depend on various factors. A member is expected to receive a higher pension under the following conditions:

- joins at a younger age (without opting out)
- receives a higher amount of assessable income
- the scheme has a higher total contribution rate (employee plus employer)
- investment performance is better
- States pension age is higher
- lump sum taken at retirement is lower
- annuity purchased from insurance company is cheaper

The pension amounts are expected to be lower in the earlier years following the introduction of the Secondary Pension Scheme. This is because the accumulated funds will be smaller, since contribution rates will be lower initially and the period that the contributions will have been paid will only have been for a small proportion of working life.

5.2.3 Income Replacement Rates

A replacement rate is calculated as the percentage of an individual's pre-retirement earnings that would be replaced by the total pension income immediately after retirement. The replacement rates illustrated below are based on gross income (i.e. before tax and other deductions).

The 2016 Billet refers to the different levels of target replacement rates, depending on the level of pre-retirement income. Table 7 shows the latest published statistics for Guernsey, and the target replacement rate in retirement.

Table 7. Average earnings in Guernsey and target replacement rate in retirement

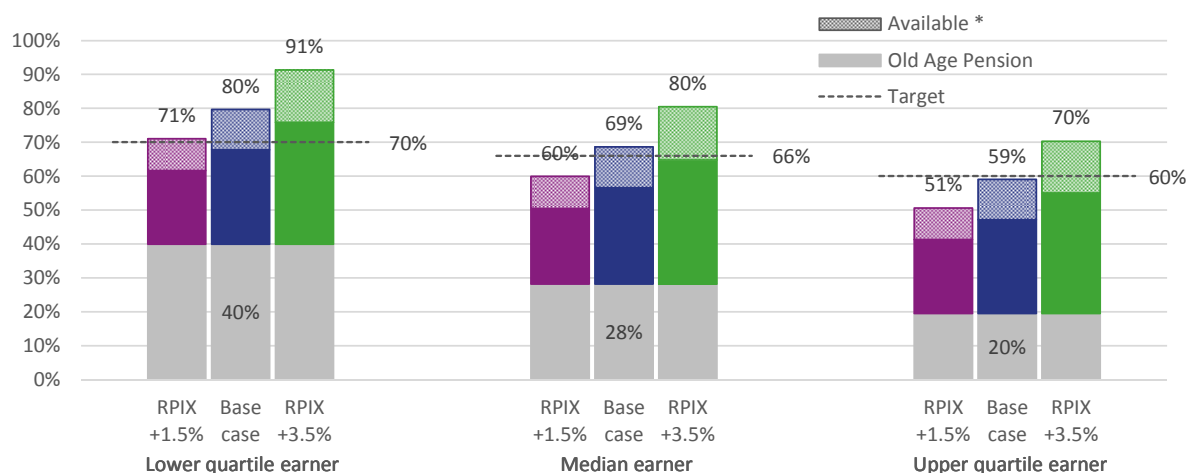
Category of Earner	Four quarter average earnings (at June 2017)	Target Replacement Rate	Target Retirement Income per annum (2017 terms)
Lower Quartile	£22,016	70%	£15,411
Median	£31,906	66%	£21,058
Upper Quartile	£46,838	60%	£28,103

Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 26 October 2017 and Billet d'État III 2016.

Figure 33 illustrates the income replacement rates for an individual who joins the Secondary Pension Scheme aged 25 and continues in employment until their States pension age. It is assumed that they have no other income in retirement other than from the States old age pension and from the Secondary Pension Scheme. The examples are based on the longer term stable structure of the scheme (i.e. the member has a States pension age of 70 and the phasing in of contribution rates has been completed before the member joins the scheme).

The chart shows the impact of individuals taking lump sums from the Secondary Pension Scheme. An additional amount is shown as available (dotted area) which can be accessed by taking less than the maximum lump sum of 30% of their Secondary Pension Scheme fund at retirement. The chart also shows the sensitivity of the replacement rates to the investment return assumption.

Figure 33. Income replacement rates



* depending on lump sum taken from Secondary Pension

The chart shows the expected replacement rates for three members, as follows:

- an individual earning at the lower quartile level throughout their working life

- an individual earning at the median level throughout their working life
- an individual earning at the upper quartile level throughout their working life.

The individual is assumed to have a full social security contribution record. Therefore, the chart reflects a full old age pension. In practice, it is understood that only around a quarter of people have a full contribution record. Consequently, the income replacement rates for those with an incomplete social security record are expected to be lower

The age-related growth in employment income has been taken from the age-specific income percentiles for the current working population, assuming individuals continue to earn at the same age-related percentile throughout their career. The population-related growth in income for the base case assumption has also been applied (the base case assumption is a growth in income of RPIX + 1.0% per annum in addition to the age-related growth).

The target replacement rates shown in Figure 33 are different from those shown in Volume III of the 16th February 2016 Billet d'État. This is due to differences in the assumptions including updated annuity rates and a lower level of growth in employment incomes. Higher rates of assumed growth in employment incomes would reduce the replacement rates.

Figure 33 illustrates that for the base case assumptions, the projected income replacement rate for a lower quartile earner increases from just below 40% (the old age pension alone) to up to around 80% for a person who contributes to the Secondary Pension Scheme throughout their working life from age 25 to age 70 and takes no lump sum at retirement.

It also illustrates that a median earner could expect to receive a retirement income of only around 28% of their pre-retirement income if they relied solely on the States old age pension, whereas they are projected to achieve the target level of 66% of their pre-retirement income if they contributed to the Secondary Pension Scheme throughout their working life.

Under the base case assumptions, the lower quartile earner and median earner are projected to have pensions which would achieve the target replacement rate. Furthermore, the lower quartile earner could achieve the target replacement rate even after taking 24% of their fund as a lump sum at retirement rate.

If investment returns are 1% per annum higher than the base case assumption (i.e. RPIX + 3.5% per annum) then the projected retirement income exceeds the target rates by a significant margin.

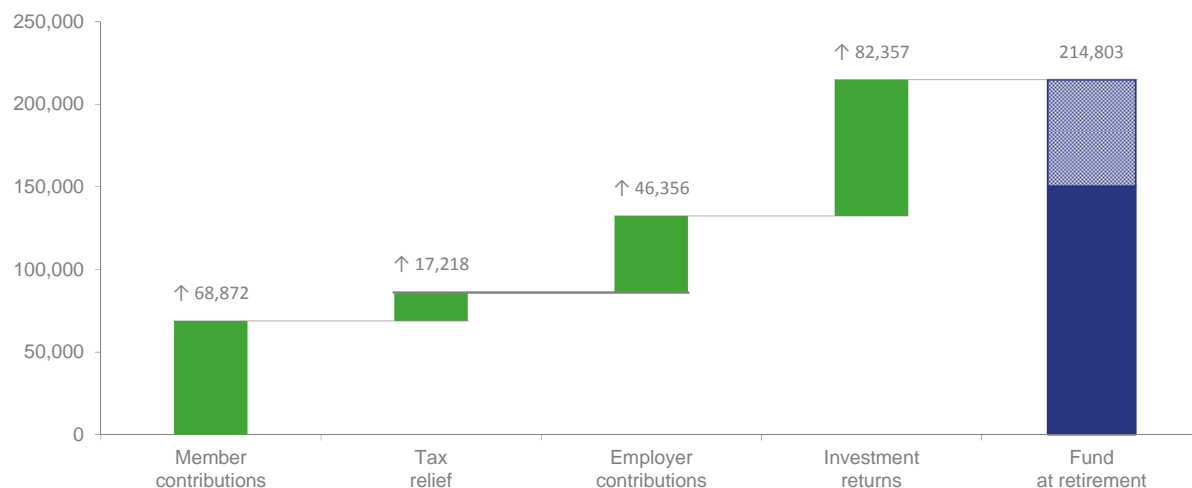
If investment returns are 1% per annum lower than the base case assumption (i.e. RPIX + 1.5% per annum) then the target replacement rates are generally achieved for the lower quartile earner. However, target replacement rates would not be expected to be achieved by the median earner and upper quartile earner.

Figure 33 clearly illustrates that the Secondary Pension Scheme will lead to a significant increase in retirement income. The projected income for the lower quartile earner under the base case is potentially double the rate of the full old age pension.

5.2.4 Impact over lifetime

Figure 34 illustrates the pension fund at retirement for the lower quartile earner for an individual who joins the Secondary Pension Scheme aged 25 (as per the income replacement rate examples in Section 5.2.3). It shows how different components of the Secondary Pension Scheme are expected to contribute to the size of the fund for the individual, under the base case assumptions.

Figure 34. Source of Secondary Pension Scheme fund for lower quartile earner



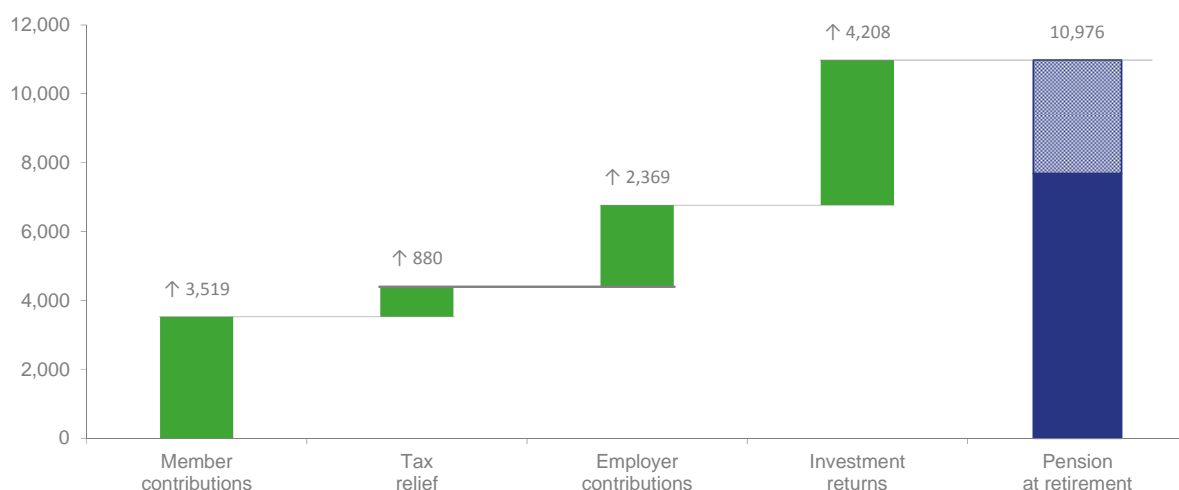
The investment returns shown in the charts are net of charges.

The chart shows that the member is expected to contribute £68,872 over their career, in terms of current prices. There is an additional £17,218 added to the fund due to tax relief on the member contributions. In addition, the employer is expected to pay in £46,356. These contributions are expected to increase in real terms with investment returns (net of charges), which add £82,357, resulting in a projected fund at retirement of £214,803.

This fund is then used to purchase an annuity at retirement. A lump sum may be taken prior to purchasing the annuity, which would reduce the funds available and also reduces the size of the pension purchased. The lump sum that can be taken is shown as a dotted area in the chart. Where no lump sum is taken, the full fund is available to purchase an annuity (ie £214,803). However, if the maximum lump sum is taken at retirement then the fund is reduced by the dotted area (a maximum lump sum of £64,441 in the above example, leaving a fund size of £150,362 with which to purchase an annuity).

The size of the resulting pension available (to the lower quartile earner example) is shown in Figure 35.

Figure 35. Source of Secondary Pension Scheme pension for lower quartile earner



The dotted area shows the amount of pension which would not be available if the maximum lump sum is taken at retirement. If no lump sum is taken then a pension of £10,976 per annum is available to the lower quartile earner. If the maximum lump sum of £64,441 is taken then a pension of £7,683 per annum is expected to be available to the lower quartile earner.

Figure 35 shows that an individual's contributions over their career, in terms of current prices, equate to a pension of £3,519 per annum at retirement. However, because of the positive impact of tax relief, employer contributions and net investment returns, the cumulative impact is a fund, which equates to a pension of £10,796 per annum at retirement (if no lump sum is taken). Therefore, the pension that the lower quartile earner is expected to receive at retirement is worth around three times what the member has contributed to the Secondary Pension Scheme.

5.3 Impact on Household Income

The impact of the Secondary Pension Scheme on household income will depend on the composition of the household and the circumstances of the individual members. Working age individuals who contribute to a secondary pension will have their net income reduced before retirement. However, they will ultimately benefit from additional pension income in retirement. To understand the magnitude of the impact of the Secondary Pension Scheme on disposable income, it is necessary to consider the impact at the household level. This is because the Secondary Pension Scheme may impact on the amount of income support a household would receive.

Income support is a new social welfare benefit that is expected to be introduced in 2018, combining supplementary benefit and rent rebate into a single system. Income support is a means-tested benefit assessed at the household level. It is paid to bring a household's income up to a level that is considered the minimum amount required to live on. This minimum amount, known as the requirement rate, reflects the household composition and circumstances of the household members. The assessment also takes into account the amount of capital the household has available.³⁸ This is why two households with the same income may not necessarily both be eligible for income support or may receive different amounts.

5.3.1 Illustrative Examples of Impact on Household Income

The potential impact of the Secondary Pension Scheme on household income is shown using a range of simple illustrative examples in Table 8 and Table 9 on different household types. We have assumed:

- Gross household income is defined as gross taxable income (which includes the old age pension) plus income support and family allowance.³⁹ Other benefits are presumed to be zero.
- Net household income is defined as gross household income less income tax, social security, and pension contribution.
- Eligible working age individuals do not opt out of the secondary pension and contribute 6.5% of their income to the Secondary Pension Scheme.
- Income tax is assessed on an individual basis.⁴⁰
- Income support will be implemented as set out in the Billet d'État Volume II from 8 March 2016.⁴¹
- Pension contributions are a deductible allowance in the income support assessment.⁴²
- Income support payment for eligible households is adjusted to take into account the change in the net household income.
- The income support payment can be increased, but only up to the maximum requirement rate and this depends on the household composition.⁴³

³⁸ States of Guernsey (2015). Supplementary Benefit Leaflet SPB 2.

³⁹ Family allowance is £13.50 per child per week in 2017.

⁴⁰ Since the married persons tax allowance will be gradually withdrawn. See States of Guernsey (2016). Summary of Allowances Year of Charge 2017.

⁴¹ The monetary values in the Billet d'Etat were presented in 2015 prices and have been inflated to 2017 terms.










⁴² This is consistent with the existing legislation (The Supplementary Benefit (Implementation) Ordinance, 1971) on supplementary benefit.

⁴³ The long-term requirement rate for a single adult was proposed to be £170.60 per week, for a couple £282.79 per week, per child (aged 11 years and over) £100.16 per week. The maximum rent allowance for a single or couple adult without children was £207.00 per week (2015 prices). The maximum rent allowance with two children was £316.10. Thus, for a single adult the maximum rate would be £19,635 per year (2015) or £20,354 in 2017 terms. For a couple without children the maximum rate would be £25,469 per year (2015) or £26,395 in 2017 terms. For a couple with two children the maximum rate would be £36,351 per year (2015) or £37,672 in 2017 terms.

For example, household E consists of two working age adults, one earning £15,000 per annum from employment. The other is not employed but receives £5,000 in other income. Without the Secondary Pension Scheme the couple have a gross income of £20,000 and pay £1,000 in income tax, and £990 in social insurance (not shown). Their net household income is £18,010. With Secondary Pension Scheme the maximum pension contribution the employed adult will pay is £975, pay £805 in income tax and £990 in social insurance. As a household, their net income will be reduced by £780 to £17,230. Comparing the household profiles shows the impact of the Secondary Pension Scheme is broadly proportionate to the amount of household income. However, the actual impact depends on their specific circumstances.

Several profiles show how income support can offset the reduction in household income (e.g. B&C, E&F, H&I). In two of these comparisons (B&C and E&F) the household is entirely reimbursed for the reduction in net income associated with the pension contribution. For example, households E and F are similar, though only Household F is eligible for income support and receives £5,000 per annum. The income support payment to Household F will increase by £780 to offset their reduction in net income due to Secondary Pension Scheme contributions. In the other comparison (H&I) the reduction in net income is only partly offset because of the maximum requirement rate.

Table 8. Illustrative examples to show the impact on working age households

	Household Composition & Income ⁴⁴	Receive Income Support		Gross Income	Income Support Paid	Pension contribution	Income Tax Paid	SI Paid	Net Household Income
A 	1 Working Age £30,000 salary	No	No SPS:	£30,000	n/a		£4,000	£1,980	£24,020
			SPS:	£30,000		£1,950	£3,610	£1,980	£22,460
			Change			-£1,950	£390	£0	-£1,560
B 	1 Working Age: £15,000 salary	No	No SPS:	£15,000	n/a		£1,000	£990	£13,010
			SPS:	£15,000		£975	£805	£990	£12,230
			Change			-£975	£195	£0	-£780
C 	1 Working Age: £15,000 salary	Yes	No SPS:	£18,000	£3,000		£1,000	£990	£16,010
			SPS:	£18,780	£3,780	£975	£805	£990	£16,010
			Change		£780	-£975	£195	£0	£0
D 	2 Working Age: £30,000 salary; £30,000 salary	No	No SPS:	£60,000	n/a		£8,000	£3,960	£48,040
			SPS:	£60,000		£3,900	£7,220	£3,960	£44,920
			Change			-£3,900	£780	£0	-£3,120
E 	2 Working Age: £15,000 salary; £5,000 other	No	No SPS:	£20,000	n/a		£1,000	£990	£18,010
			SPS:	£20,000		£975	£805	£990	£17,230
			Change			-£975	£195	£0	-£780
F 	2 Working Age: £15,000 salary; £5,000 other	Yes	No SPS:	£25,000	£5,000		£1,000	£990	£23,020
			SPS:	£25,780	£5,780	£975	£805	£990	£23,010
			Change		£780	-£975	£195	£0	£0
G 	2 Working Age + 2 Children* £50,000 salary; £30,000 salary	No	No SPS:	£81,404	n/a		£12,000	£5,280	£64,124
			SPS:	£81,404		£5,200	£10,960	£5,280	£59,964
			Change			-£5,200	£1,040	£0	-£4,160
H 	2 Working Age + 2 Children* £20,000 salary; £10,000 salary	No	No SPS:	£31,404	n/a		£2,000	£1,980	£27,424
			SPS:	£31,404		£1,950	£1,740	£1,980	£25,734
			Change			-£1,950	£260	£0	-£1,690
I 	2 Working Age + 2 Children* £20,000 salary; £10,000 salary	Yes	No SPS:	£36,404	£5,000		£2,000	£1,980	£32,424
			SPS:	£37,672	£6,268	£1,950	£1,740	£1,980	£32,002
			Change		£1,268	-£1,950	£260	£0	-£422







* Family allowance of £1,404 per annum for 2 children

⁴⁴ Images sourced from www.freepik.com

Table 9 illustrates the potential impact of pension income on the disposable income of pension age households and shows that the household income in retirement will either increase or stay the same (in current terms) as a result of contributing to the Secondary Pension Scheme. For example, Household N is a pension age couple with a gross income of £22,500. Contributing to a secondary pension could yield a pension income of £10,000 per annum. The couple will pay income tax and social insurance on the pension income, which in this example means that the household would have £7,963 more in disposable income each year.

Several household profiles show how receiving pension income would impact on eligibility for income support (K&L, N&O and P&Q). In all cases it is expected to reduce the amount of income support paid or eliminate it entirely. For instance, households L, O and Q would be expected to see a reduction in their income support payment. In two of these cases (L and O) the additional pension income exceeds the reduction in income support and so contributing to a secondary pension is expected to lead to a higher disposable income. In the remaining case (Q) the pension income is less than the income support, and their net income remains unchanged since income support payment is reduced by the amount received in pension income.

Table 9. Illustrative examples to show the impact on pension age households

	Household Composition & Income ⁴⁵	Receive Income Support		Gross Income	Income Support Paid	Pension Income ⁴⁶	Income Tax Paid	SI Paid	Net Household Income
J 	1 Pension Age: £30,000	No	No SPS:	£30,000			£3,710	£752	£25,538
			SPS:	£42,500		£12,500	£6,210	£1,177	£35,113
			Change			£12,500	-£2,500	-£425	£9,575
K 	1 Pension Age: £15,000	No	No SPS:	£15,000			£710	£0	£14,290
			SPS:	£23,000		£8,000	£2,310	£514	£20,176
			Change			£8,000	-£1,600	-£514	£5,886
L 	1 Pension Age: £15,000	Yes	No SPS:	£20,000	£5,000		£710	£0	£19,290
			SPS:	£23,000	£0	£8,000	£2,310	£514	£20,176
			Change		-£5,000	£8,000	-£1,600	-£514	£886
M 	2 Pension Age: £20,000; £20,000	No	No SPS:	£40,000			£3,420	£825	£35,756
			SPS:	£60,000		£20,000	£7,420	£1,505	£51,076
			Change			£20,000	-£4,000	-£680	£15,320
N 	2 Pension Age: £12,500 £10,000	No	No SPS:	£22,500			£210	£0	£22,290
			SPS:	£32,500		£10,000	£1,920	£327	£30,253
			Change			£10,000	-£1,710	-£327	£7,963
O 	2 Pension Age: £12,500 £10,000	Yes	No SPS:	£24,500	£2,000		£210	£0	£24,290
			SPS:	£32,500	£0	£10,000	£1,920	£327	£30,253
			Change		-£2,000	£10,000	-£1,710	-£327	£5,963
P 	2 Pension Age: £10,000 £5,000	No	No SPS:	£15,000			£0	£0	£15,000
			SPS:	£19,000		£4,000	£510	£0	£18,490
			Change			£4,000	-£510	£0	£3,490
Q 	2 Pension Age: £10,000 £5,000	Yes	No SPS:	£20,000	£5,000		£0	£0	£20,000
			SPS:	£20,510	£1,510	£4,000	£510	£0	£20,000
			Change		-£3,490	£4,000	-£510	£0	£0

⁴⁵ The income given here is the amount of income for each individual, without income from the secondary pension.

⁴⁶ Note, the pension income values are indicative amounts rather than exact projections.

6. Economic Impact on Employers

The introduction of the Secondary Pension Scheme will require employers to review the benefits they offer their employees as they will be legally required to automatically enrol eligible employees into a secondary pension. Employees earning more than the LEL (which is £6,968 in 2017) will be eligible.

Employers will be required to contribute into the scheme at minimum statutory levels for each employee who has not opted out of the scheme. It is proposed that the employer contributions will be phased in over 8 years up to 3.5% of gross salary by 2027 (Table 1).

6.1 Number of employers affected by the Secondary Pension Scheme

All employers will need to comply with the Secondary Pension Scheme legislation. However, how they are affected depends on their existing occupational pension provision:

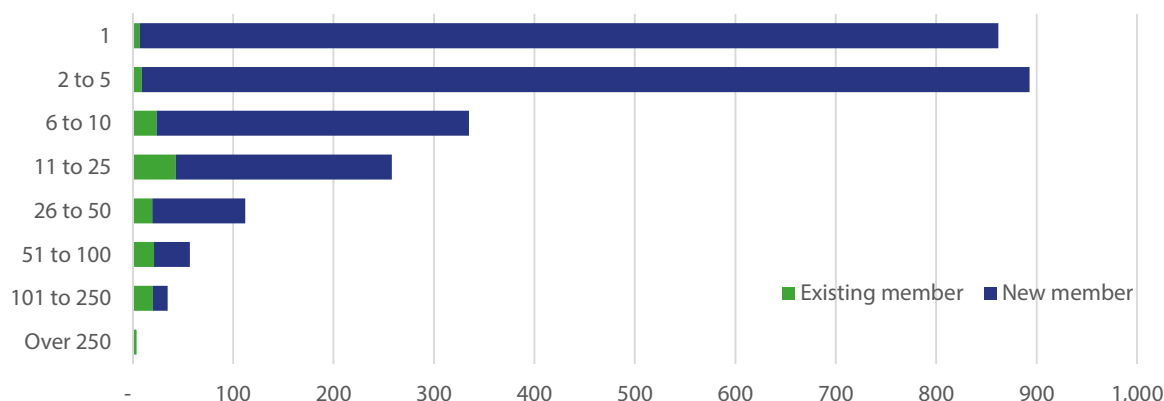
- Employers who do not currently offer employees an occupational pension will need to join a Secondary Pension Scheme (either the States-facilitated Secondary Pension Scheme or an alternative qualifying scheme).
- Employers who currently offer employees an occupational pension that satisfies the criteria for an alternative qualifying scheme and have high membership participation will be largely unaffected. They will, however, need to contact any employees who have previously opted out of the scheme and explain they will be automatically enrolled in a secondary pension, but can subsequently decide to opt out.⁴⁷
- Employers who currently offer employees an occupational pension that is not an alternative qualifying scheme will need to modify their pension arrangements. They could either revise their existing scheme (i.e. by changing the contribution rates) so that it qualifies or join a qualifying scheme (either the States-facilitated scheme or an alternative qualifying scheme).

There do not appear to be any reliable data on the percentage of employers who currently offer an occupational pension. Income Tax records for 2014 showed that the percentage of employees who contributed to an occupational pension varies considerably by economic sector. Unfortunately the available data do not show how this varies by employer size. The assumptions we have made are detailed in Section 11.3 of the Appendices. Based on these assumptions, it is estimated that of the 2,556 employers in Guernsey and Alderney, 148 currently offer an occupational pension, and 2,408 (94%) employers will be affected by the introduction of the Secondary Pension Scheme.

⁴⁷ Model assumes that all existing occupational schemes will meet the alternative qualifying scheme criteria – does not take into account that some occupational pensions will be improved.

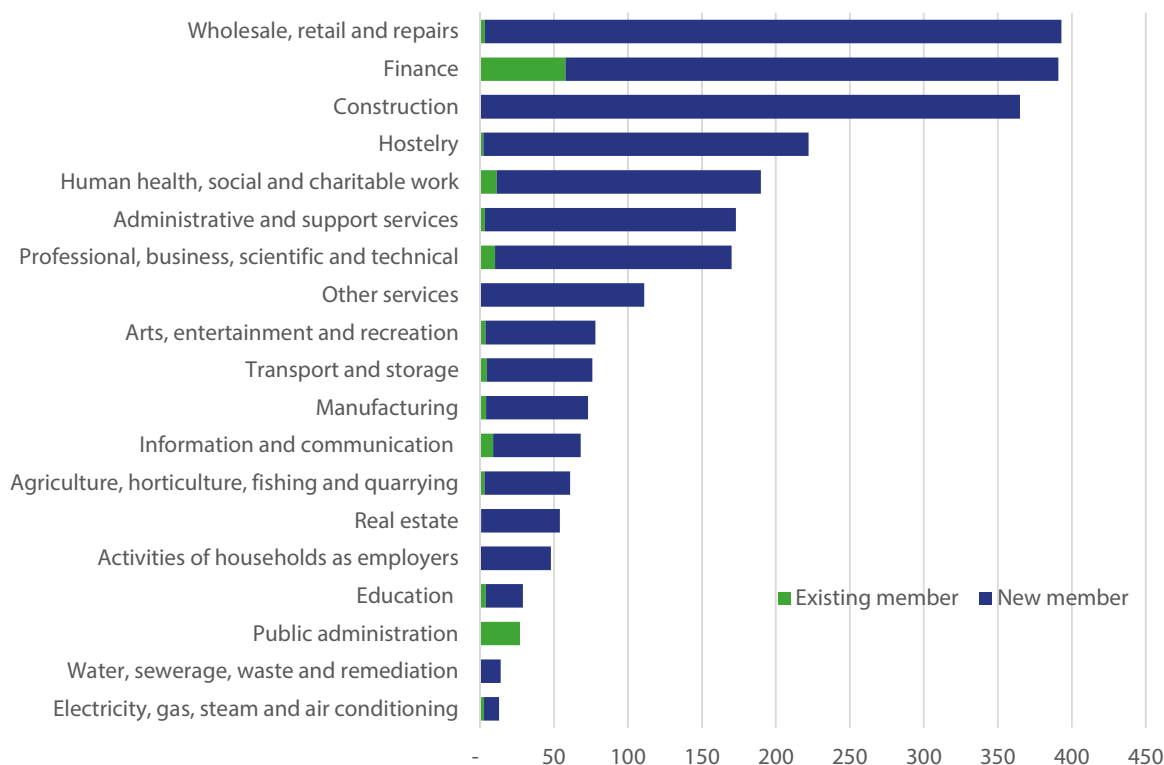
Employers of all sizes will be affected by the Secondary Pension Scheme, however micro-employers are likely to be the most affected since they are the least likely to offer an occupational pension. Figure 36 and Figure 37 show the number of employers who will need to join a Secondary Pension Scheme, by sector and by size.

Figure 36. Number of employers who will need to enrol employees in a Secondary Pension Scheme, by employer size



All economic sectors, except public administration, will be affected. Construction; hostelry; and wholesale, retail and repairs will be particularly affected. It is estimated that these sectors employ 25% of the workforce. These sectors are also likely to have the highest administrative burden, due to staff turnover and seasonal workers and part-time workers.

Figure 37. Number of employers who will need to enrol employees in a Secondary Pension Scheme, by economic sector



6.2 Marginal Impact on Employer Costs

Employers that do not currently offer an occupational pension will incur additional costs as they will be required to contribute to the Secondary Pension Scheme. These costs will be the pension contributions, together with any administrative costs incurred.

6.2.1 Employer Pension Contributions

Figure 38 shows the total projected additional amount that employers will contribute to secondary pensions each year. The amount employers contribute increases to £18 million by the end of 2027, as the contribution rate increases, and increases gradually thereafter in line with real earnings growth.

Figure 38. Marginal impact on the annual amount paid into secondary pensions schemes by employers in Guernsey and Alderney

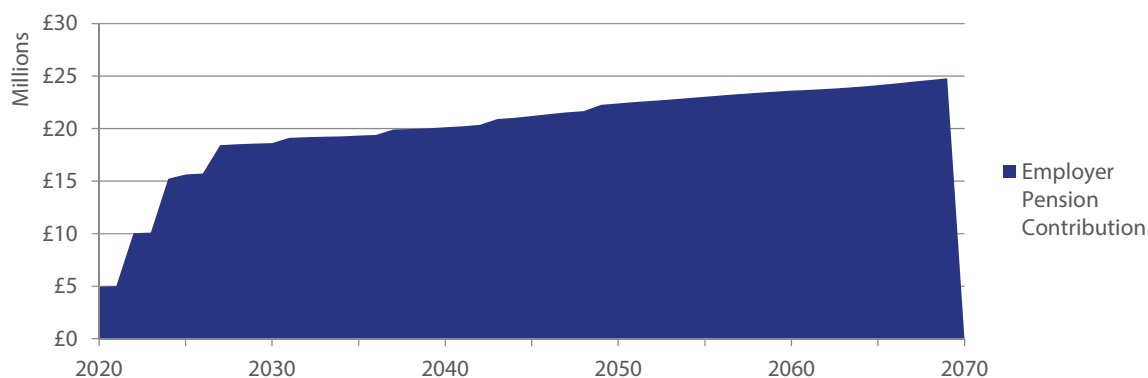


Figure 39, Figure 40 and Figure 41 show the sensitivity of the employers' pension contributions to assumptions about the rate of real earnings growth, opt out rates, and the percentage of employees who are members of an existing scheme.

Figure 39. Marginal impact on employers' secondary pension contribution: sensitivity to the assumption on real earnings growth

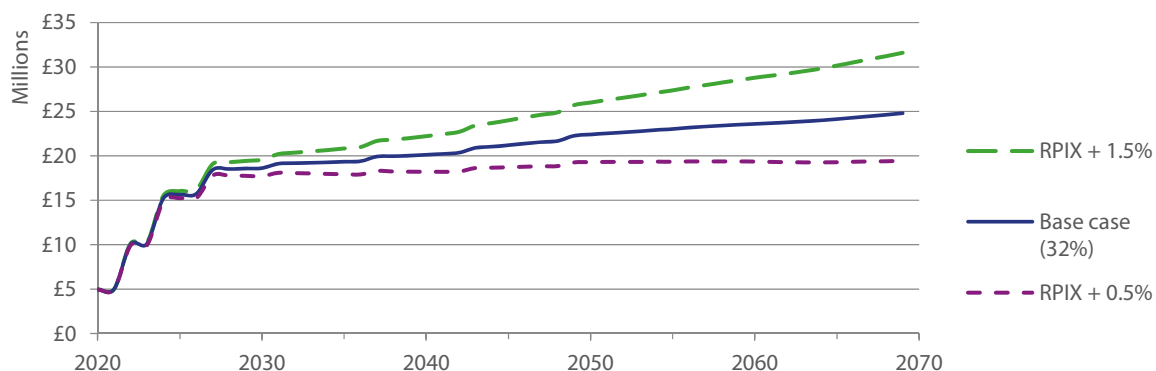


Figure 40. Marginal impact on employers' secondary pension contribution: sensitivity to opt out rate

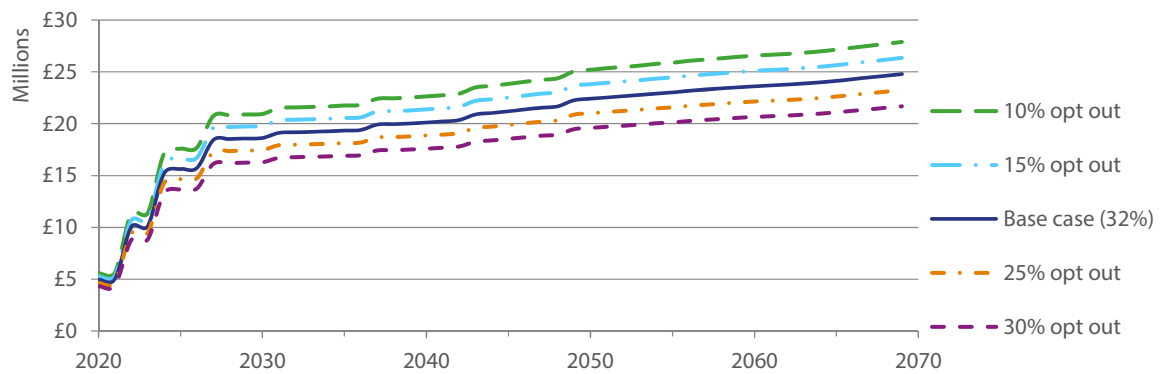
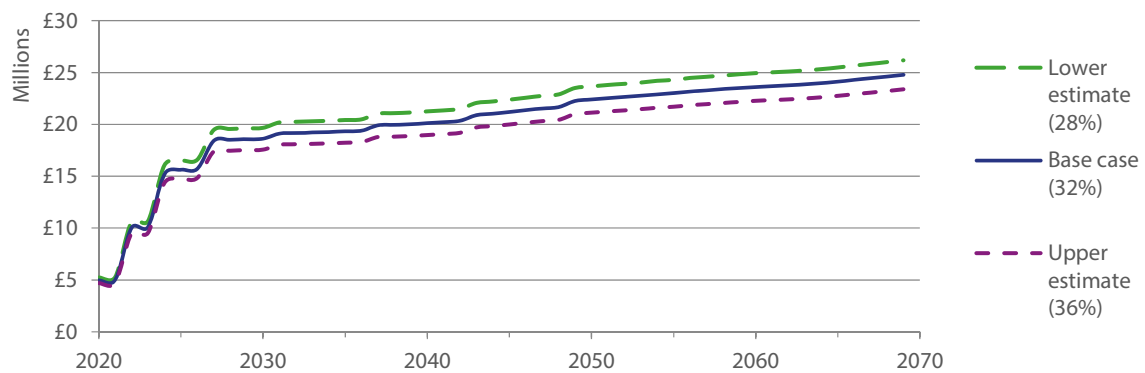


Figure 41. Marginal impact on employers' secondary pension contribution: sensitivity to the assumption on percentage of employees with existing occupational pension

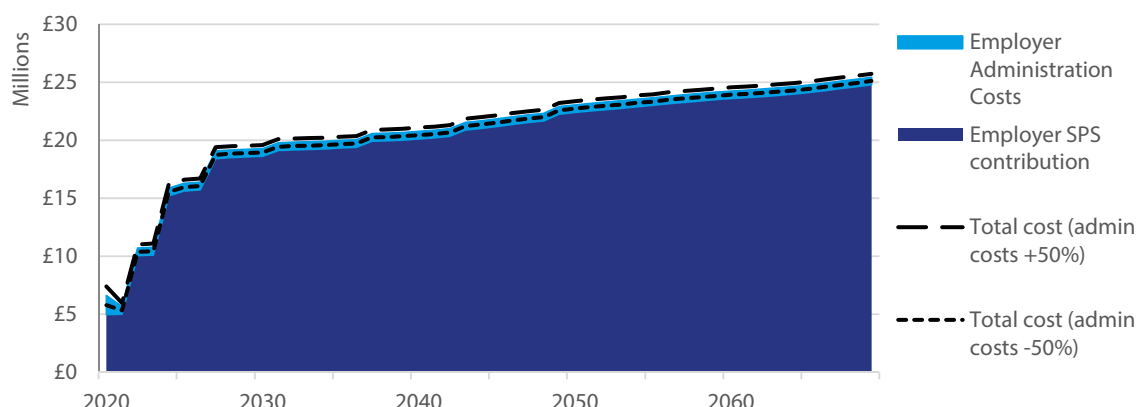


6.2.2 Employer Administration Costs

The economic model also acknowledges employers may face some additional administrative costs to comply with the Secondary Pension Scheme. Administration costs have been included in the economic model since they represent an opportunity cost. In other words, resources will need to be allocated to administering the Secondary Pension Scheme that could have an alternative productive use. However, it should be noted that only in some instances will the additional resources represent a monetary cost. Employers who pay for professional advice, who outsource their payroll may incur additional charges. However, there will be others for whom the additional resources required are staff time that can be absorbed within the existing workload.

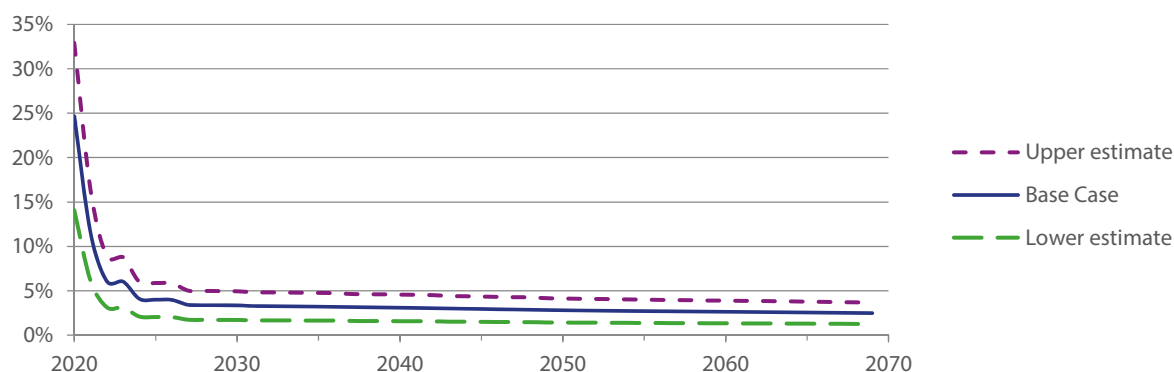
In the base case scenario it has been assumed employers will incur a fixed cost of £500 per employer in the first year and £200 in subsequent years, together with a variable cost of £25 per employee in the first year and £10 per employees in subsequent years. In the first year the fixed component reflects the time and/or advice required to understand their statutory duties and make system changes to human resource or payroll systems. In subsequent years the fixed costs reflect the time and/or advice required to monitor policy changes (such as increases to the contribution rate). The variable costs reflects the staff time required to enrol each employee. The projected costs are shown in Figure 42.

Figure 42. Total annual cost of the Secondary Pension Scheme on all employers



After the first year, under base case assumptions the administration costs represent a relatively small proportion (3.8%) of the overall cost on employers. This is illustrated in Figure 43.

Figure 43. Employers' administration costs as a percentage of the total employer cost



6.2.3 Impact on employers of different sizes

This section considers how the Secondary Pension Scheme will impact on employers of different sizes. For illustrative purposes, in this section it has been assumed that all employees receive a gross salary that remains fixed at £30,000 throughout the implementation period.

Figure 44 shows the average annual cost of the Secondary Pension Scheme per employee over the implementation period. For employers with a single employee the administrative costs are larger than the pension contribution in the first year of the scheme.

Figure 44. Average annual cost of the Secondary Pension Scheme per employee, by employer size

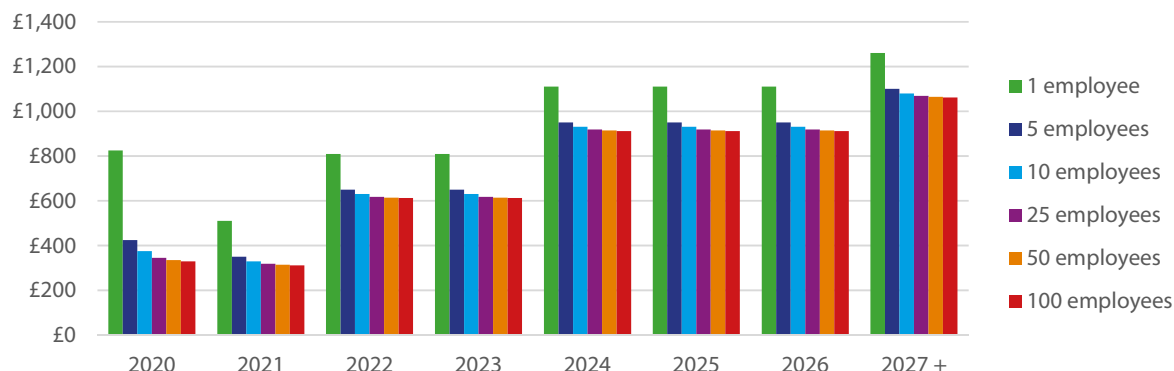


Figure 45, Figure 46, Figure 47 and Figure 48 illustrate the total cost per employer for employers of different sizes, split between the employers' pension contribution and the administrative cost.

Figure 45. Projected total cost of the Secondary Pension Scheme for an employer with one employee

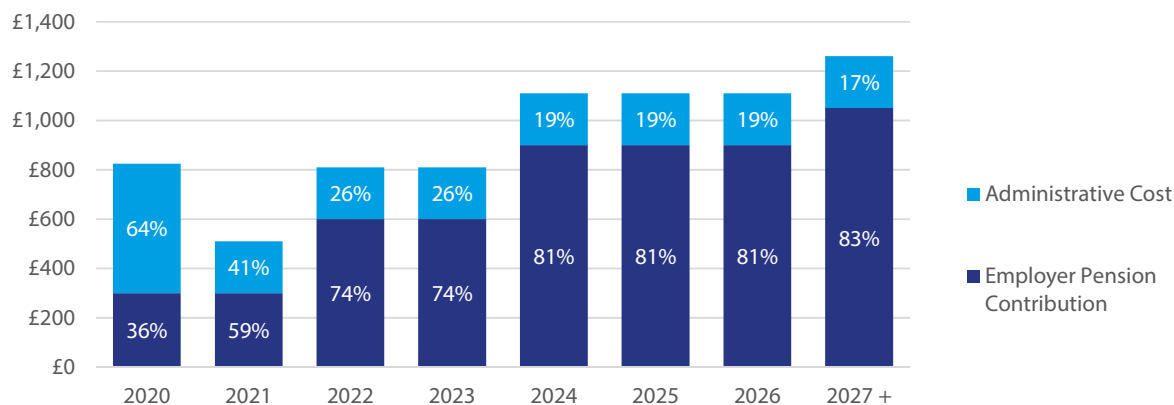


Figure 46. Projected total cost of the Secondary Pension Scheme for an employer with five employees

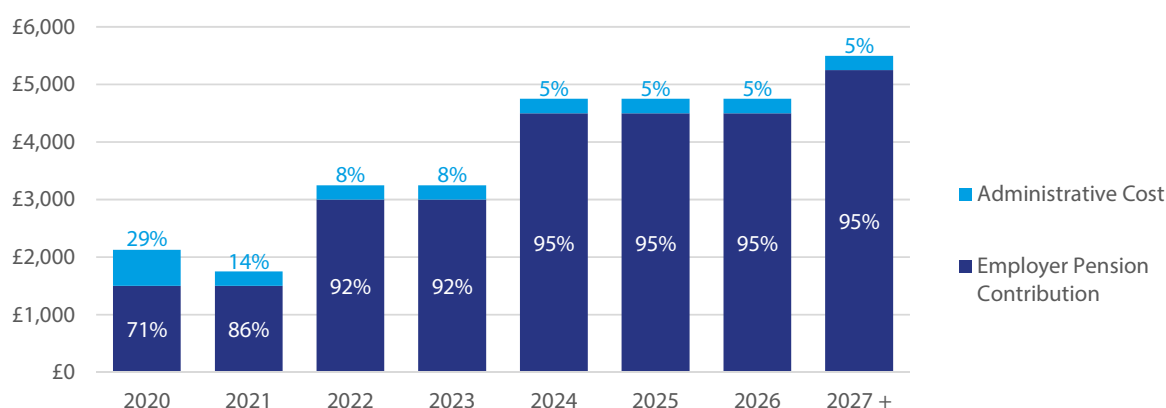


Figure 47. Projected total cost of the Secondary Pension Scheme for an employer with 15 employees

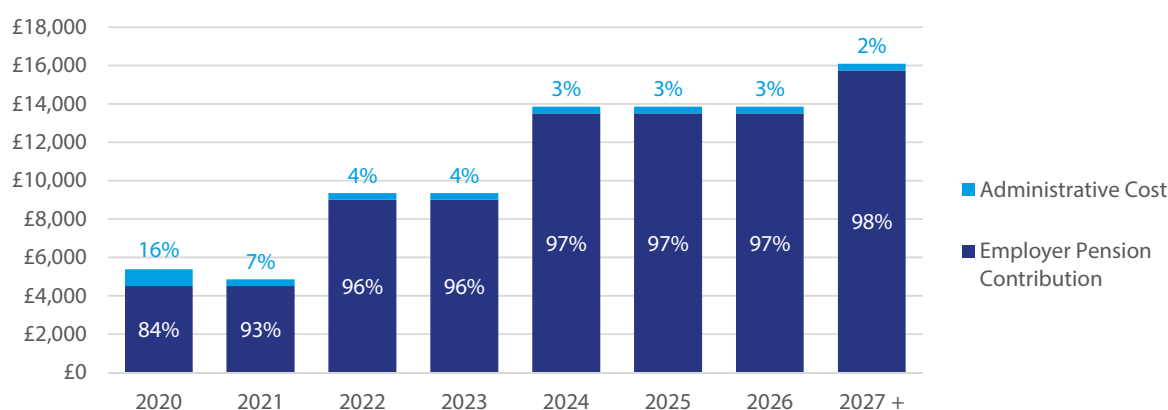
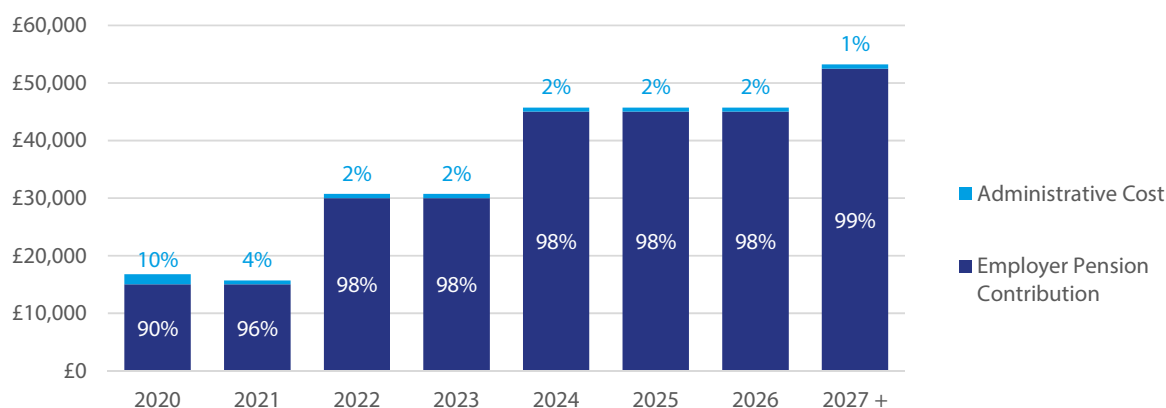


Figure 48. Projected total cost of the Secondary Pension Scheme for an employer with 50 employees



The cost of the employers' pension contribution is proportionate to the payroll. However, as Figure 45, Figure 46, Figure 47 and Figure 48 illustrate the Secondary Pension Scheme will have a disproportionate impact on sole traders and the smallest employers and this is because the fixed component of the administration costs will be distributed across fewer employees.

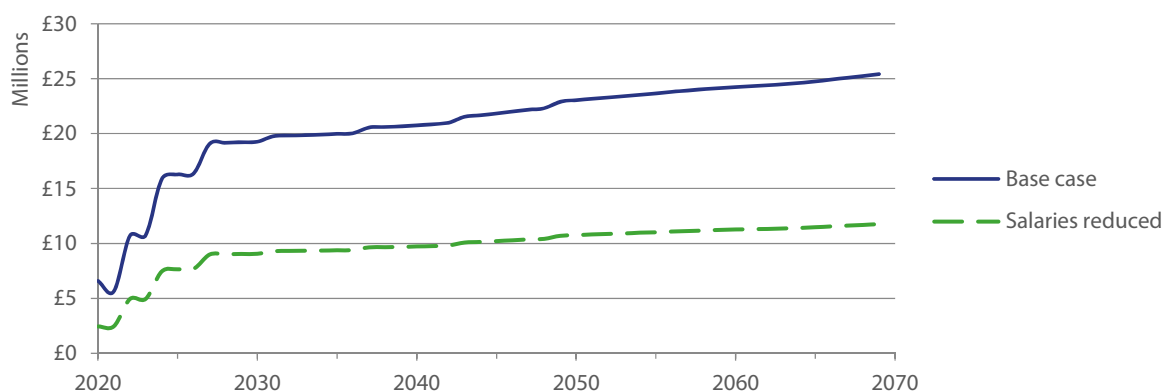
6.3 Employer Response to Secondary Pension Scheme

The base case scenario assumes 100% of the costs are borne by employers, with a corresponding reduction in company profits and therefore company tax. It is difficult to predict exactly how employers will response, but the base case is the worst case scenario. In practice, employers may be able to recover some of the additional costs and could respond using one or a combination of the following strategies:

- Reduce the number of hours worked or overtime available in order to limit the payroll
- Reduce the number of people employed, freeze recruitment or make redundancies in order to limit the payroll
- Defer or reduce future pay rewards to offset the increased pension costs
- Cut costs in other areas
- Increase productivity
- Increase prices to pass on increased labour costs to consumers
- Reduce their profits or dividends

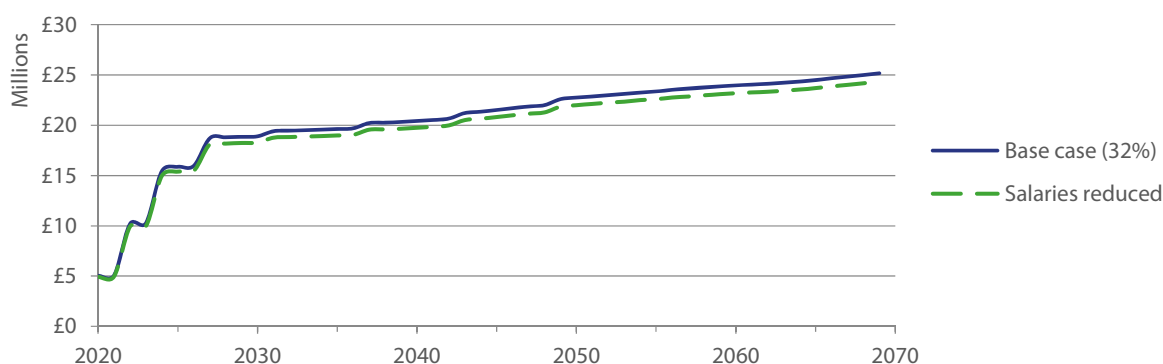
Sensitivity analysis has been used to assess an alternative scenario where employers recover 50% of the Secondary Pension Scheme costs by reducing future pay awards. The marginal cost to employers is show in Figure 49.

Figure 49. Marginal cost of Secondary Pension Scheme on employers if offset 50% of the additional costs by reducing salaries



As Figure 50 shows, reducing salaries to recover some of the Secondary Pension Scheme costs will also reduce the amount that employers contribute to the Secondary Pension Scheme.

Figure 50. Marginal impact on employers' secondary pension contribution: sensitivity on employers response (recover 50% of additional costs by reducing salaries)



7. Impact on the Government Budget

This section describes the estimated marginal impact of the Secondary Pension Scheme on government finances. We present the results of the economic model on the following components, before describing the overall impact:

- income tax revenue from working age population
- income tax revenue from pension age population
- company tax revenue
- expenditure on income support

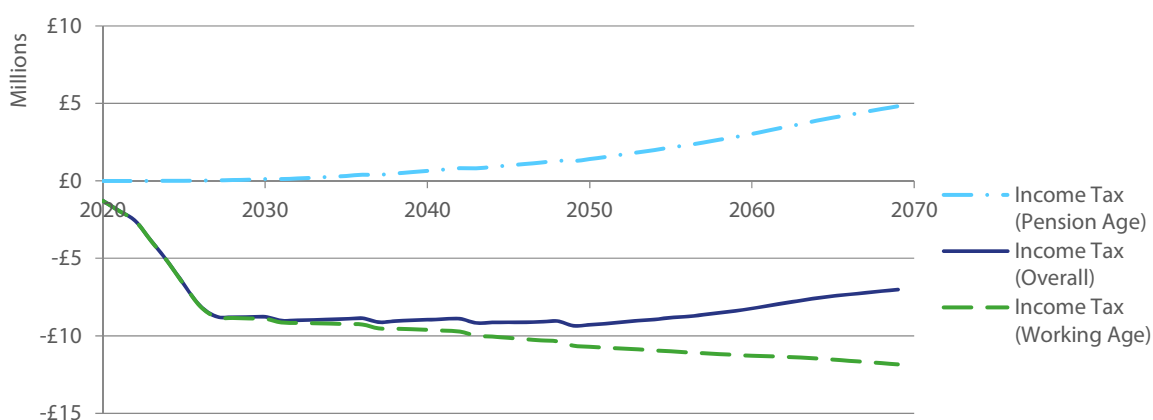
7.1 Marginal impact on Income Tax Revenue

The Secondary Pension Scheme will impact on the revenue from personal income tax in two ways:

- Individuals contributing to a secondary pension are likely to pay less in income tax since pension contributions are tax exempt
- Individuals receiving income from a secondary pension may pay more in income tax since pension income will be included in the income tax assessment.

The economic model focuses on the marginal impact on income tax at the population level, based on a 20% income tax rate, assumptions about the age, income and employment profile of the population, and that personal allowances increase in line with real earnings (as set out in Section 3.4). Figure 51 shows the estimated marginal impact of the Secondary Pension Scheme on income tax revenue over the next 50 years overall, and for the working and pension age populations in the base case scenario.

Figure 51. Marginal impact of Secondary Pension Scheme on Income Tax Revenue



The introduction of the Secondary Pension Scheme will lead to an overall loss in income tax revenue. This is because of the reduction in income tax revenue from the working age population in tax relief on pension contributions is greater than the increase in income tax revenue from the pension age population who benefit from additional pension income in retirement.

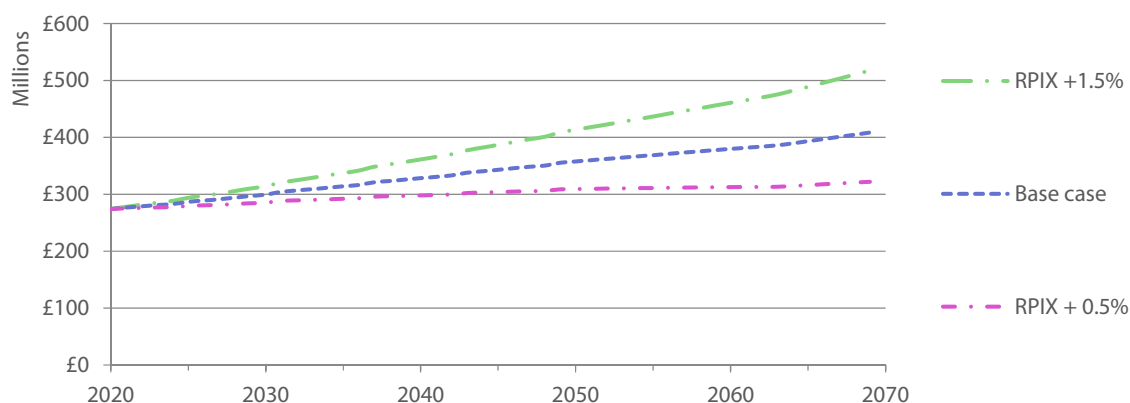
Figure 51 shows the reduction in income tax revenue from the working age population as the contribution rate increases. In 2027, when the individuals' contribution rate reaches 6.5%, the projected loss in income tax revenue is £8.8 million (in 2017 terms).⁴⁸ By 2069 the net effect on income tax revenue is projected to be a loss

⁴⁸ States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016. The accounts reported total revenue from personal income tax was £246 million in 2016. Total revenue from personal income tax in 2027 is projected to be £275 million, based on the assumption of real earnings growth of 1%.

of £7 million (in 2017 terms). The impact of the Secondary Pension Scheme lessens over time. This is because there will be an increasing number of pension age individuals who have participated in the Secondary Pension Scheme and will pay income tax on their Secondary Pension Scheme pension. In addition, the average pension income will increase (as they will have contributed for more of their working life). The ripples occurring in 2031, 2037, 2043 and 2049 reflect the planned changes to the States pension age, which have been modelled on a full year basis.⁴⁹

The Secondary Pension Scheme will mean total income tax revenue is lower than it would be than if the Secondary Pension Scheme was not introduced, However, it is important to note that the States' assumption of real earnings growth of 1% per annum (i.e. at the population level employment and self-employment income increase at 1% per annum above inflation) means that total income tax revenue is projected to increase over the next 50 years. Figure 52 shows the projected increase in income tax revenue under different assumptions for real earnings growth (allowing for demographic changes and increases in the States' pension age).

Figure 52. Projected total income tax revenue 2020 to 2069: sensitivity to the assumption on real earnings growth



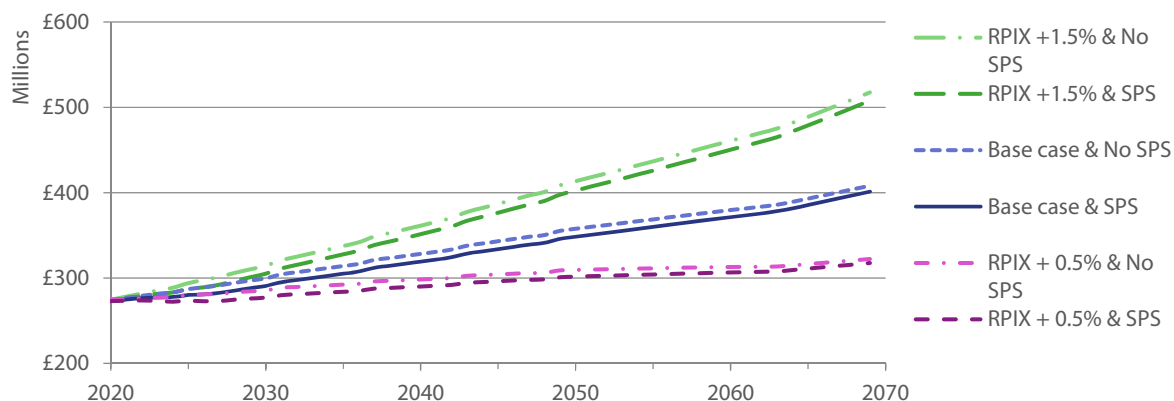
In the base case scenario, where real earnings grow by 1% per annum then total income tax revenue is projected to increase from approximately £265 million in 2020 to £400 million by 2069 (in 2017 terms). As the alternative scenarios show, real earnings growth of 0.5% per annum would yield £325 million in total personal income tax revenue by 2069, while real earnings growth of 1.5% per annum would yield income tax of more than £500 million by 2069 (again in 2017 terms).

This chart illustrates that the assumption about real earnings growth over the projection period is a key factor in how much income tax is expected to be generated. However it is important to put the impact of introducing the Secondary Pension Scheme in context.

⁴⁹ From 1 March 2020 the pension age will increase by 2 months annually until it reaches 70 years of age (<https://www.gov.gg/oldagepension>). Our analysis takes into account the planned increases in the States' pension age, but only when it reaches the next full year. Thus, it has been assumed the State pension age will increase to 66 in 2025, 67 in 2031, 68 in 2037, 69 in 2041 and 70 in 2049.

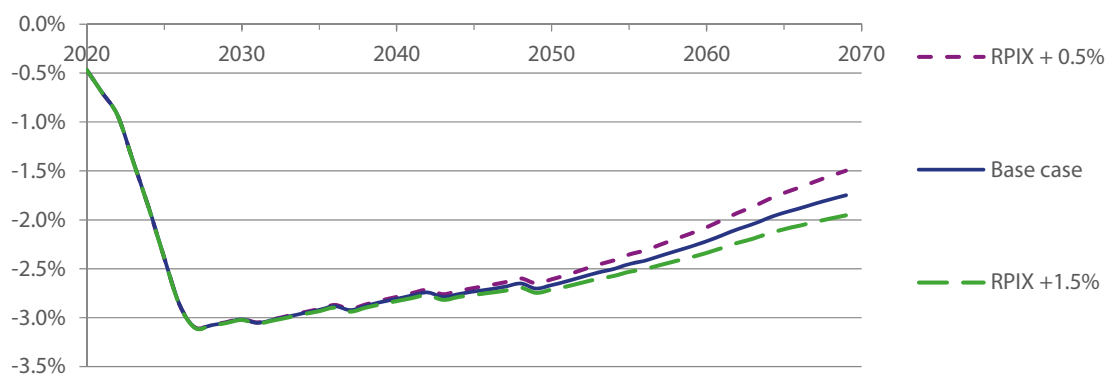
The impact of the Secondary Pension Scheme on total income tax revenue is shown in Figure 53. This shows that the Secondary Pension Scheme will reduce income tax revenue relative to 'doing nothing'. The marginal impact on income tax revenue is the difference between the two lines under each earnings growth scenario.

Figure 53. Impact of Secondary Pension Scheme on total personal tax revenue: sensitivity to the assumption on real earnings growth



We have also illustrated this as the marginal impact of the Secondary Pension Scheme on income tax revenue as a proportion of total income tax revenue. Figure 54 shows that the maximum loss in income tax revenue relative to total income tax revenue occurs in 2027, and the loss is equivalent to 3% of total income tax revenue. The impact of the Secondary Pension Scheme, relative to the total income tax revenue lessens over time.

Figure 54. Marginal impact of Secondary Pension Scheme on income tax revenue as a proportion of total income tax revenue



Finally, in the short-term, the loss in income tax revenue from the introduction of the Secondary Pension Scheme could be viewed against the expected increases in income tax revenue arising from real earnings growth. Figure 55 shows the projected increases in income tax revenue compared to 2020 alongside the projected loss in revenue from the Secondary Pension Scheme. The line shows the difference between the two values. Under the States' assumption of real earnings growth of 1% per annum, the additional in income tax revenue from real earnings growth is expected to exceed the cost of the Secondary Pension Scheme after 7 years.

Figure 55. Loss in income tax revenue compared to expected increases in income tax revenue with real earnings growth of 1% per annum

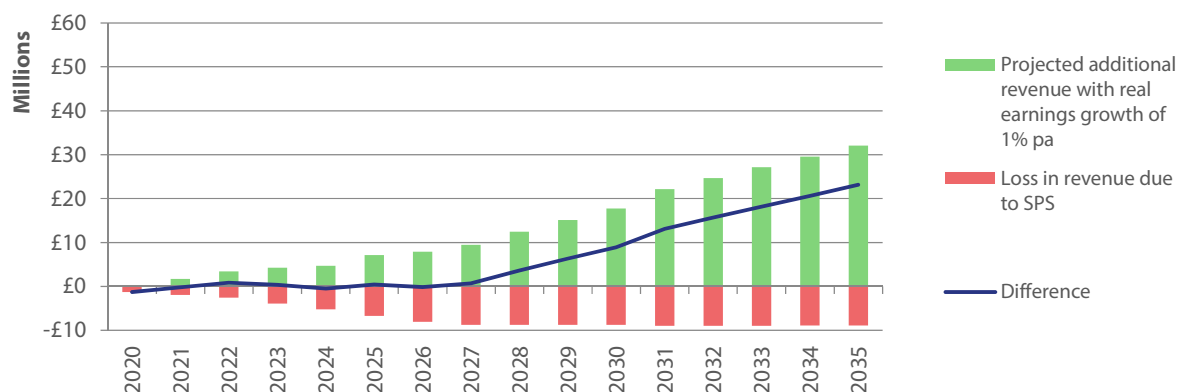


Figure 56 and Figure 57 also show the loss in income tax revenue compared to the expected increases in income tax revenue under alternative assumptions for real earnings growth. These graphs illustrate how the short-term fiscal impact of the Secondary Pension Scheme is sensitive to the assumption on real earnings growth.

- With real earnings growth of 0.5% per annum, the additional in income tax revenue from real earnings growth is expected to exceed the cost of the Secondary Pension Scheme after 14 years.
- With real earnings growth of 1.5% per annum, the additional in income tax revenue from real earnings growth is expected to exceed the cost of the Secondary Pension Scheme after one year.

Figure 56. Loss in income tax revenue compared to expected increases in income tax revenue with real earnings growth of 0.5% per annum

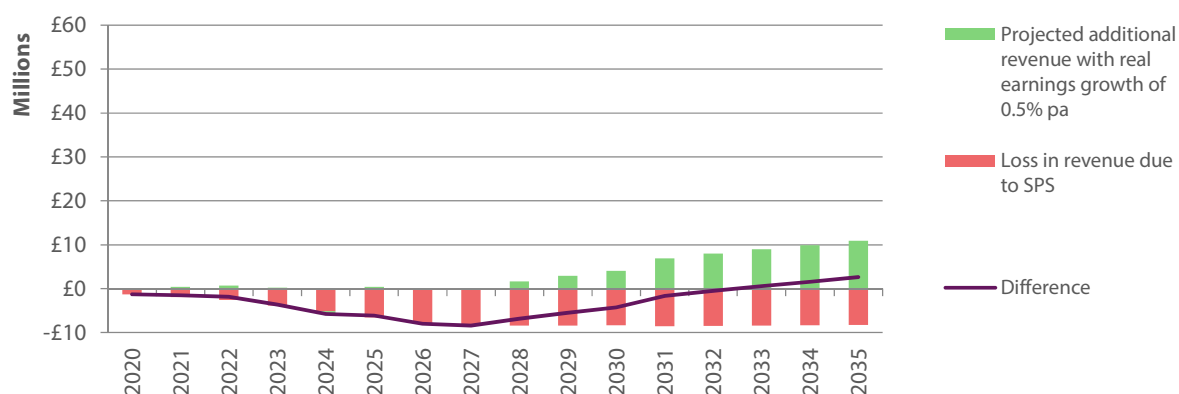
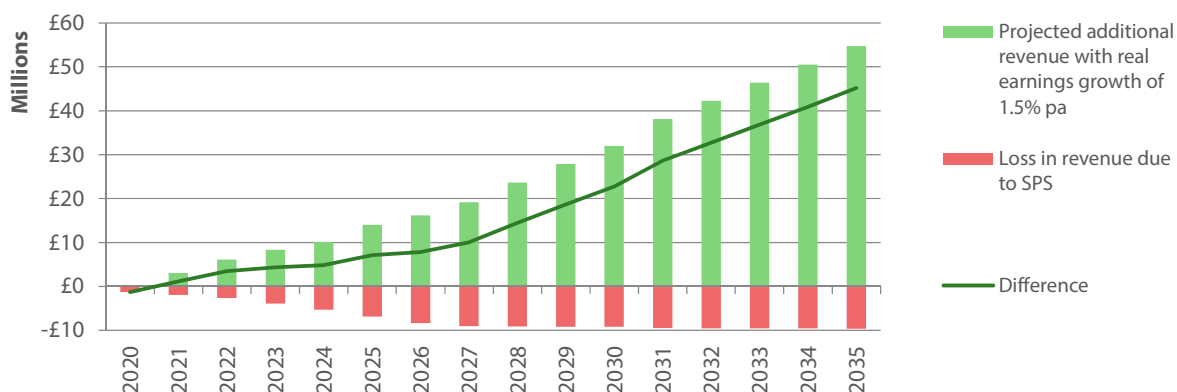


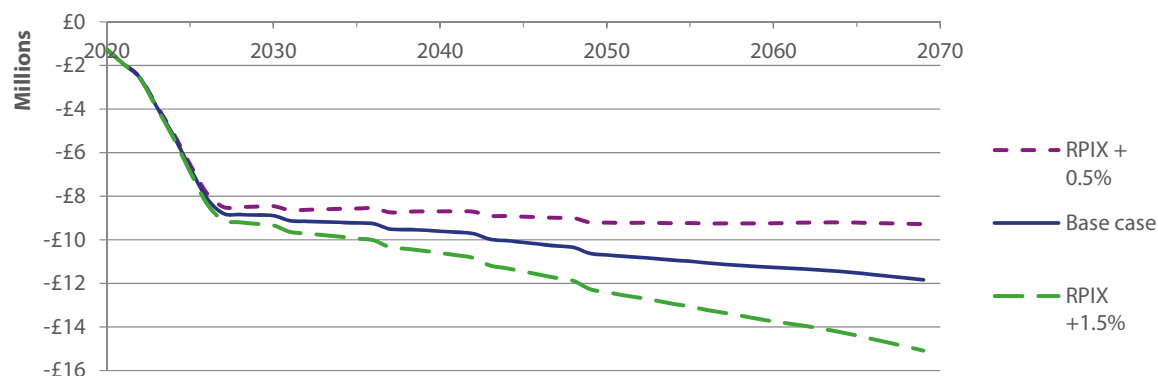
Figure 57. Loss in income tax revenue compared to expected increases in income tax revenue with real earnings growth of 1.5% per annum



7.1.1 Impact on Income Tax Revenue from Working Age Population: Sensitivity Analysis

Sensitivity analysis has been undertaken to estimate the impact of the Secondary Pension Scheme on income tax revenue from the working age population, with respect to the assumptions on real earnings growth, the opt out rate and membership of existing occupational pensions.

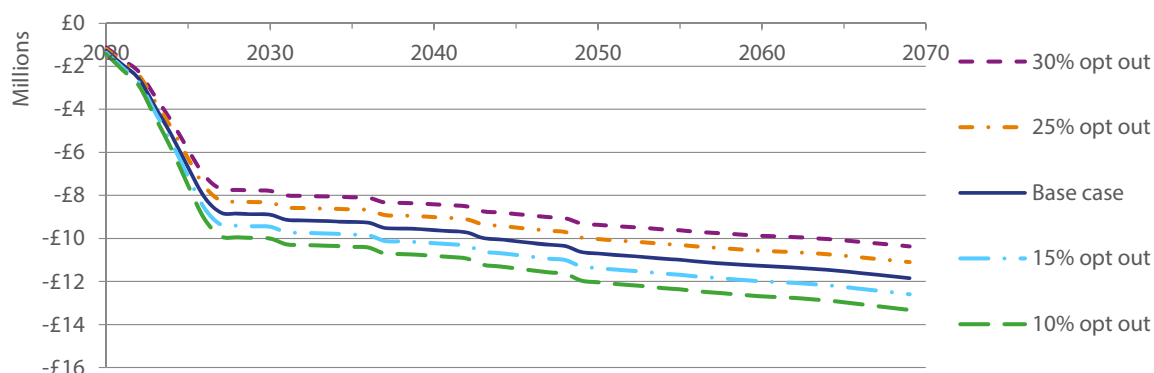
Figure 58. Marginal impact on Income Tax Revenue from Working Age Population: sensitivity to the assumption on real earnings growth



The income tax projections are sensitive to the assumption on real earnings growth. In monetary terms, higher rates of real earnings growth will lead to greater reductions in income tax revenue.

- If real earnings growth is RPIX +0.5% per annum then the loss in income tax revenue is projected to be 22% lower than in the base case by 2069.
- If real earnings growth is RPIX +1.5% per annum then the loss in income tax revenue is projected to be 27% higher than in the base case by 2069.

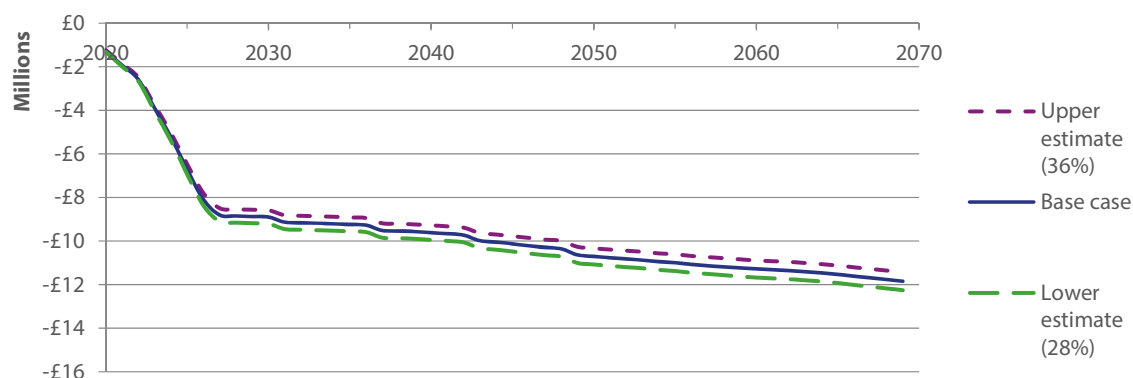
Figure 59. Marginal impact on Income Tax Revenue from Working Age Population: sensitivity on opt out rates



If opt out rates are lower than assumed then the loss in income tax revenue from the working age population would be higher than in the base case, whilst higher opt out rates would have a smaller impact:

- If the opt out rate is 10%, the loss in income tax revenue would be 12.5% higher than the base case
- If the opt out rate is 15%, the loss in income tax revenue would be 6.3% higher than the base case
- If the opt out rate is 25%, the loss in income tax revenue would be 6.3% lower than the base case
- If the opt out rate is 30%, the loss in income tax revenue would be 12.5% lower than the base case.

Figure 60. Marginal impact on Income Tax Revenue from Working Age Population: sensitivity to the assumption on percentage of employees with existing occupational pension



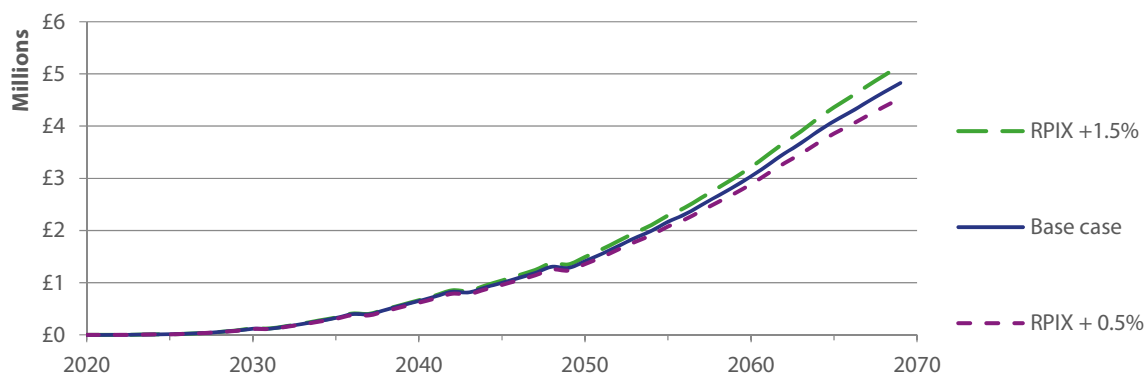
The income tax projections are less sensitive to the percentage of employees already in an occupational pension than they are to the opt out rates. The lower estimate means that more people would be eligible to join the new Secondary Pension Scheme than assumed, so the loss in income tax revenue would be greater, whilst the upper estimate means that fewer people would be enrolled to the new secondary pension and the loss in income tax revenue would be smaller:

- If 28% of employees are active members of an occupational pension, the loss in income tax revenue would be 3% higher than the base case
- If 36% of employees are active members of an occupational pension, the loss in income tax revenue would be 3% smaller than the base case.

7.1.2 Impact on Income Tax Revenue from Pension Age Population: Sensitivity Analysis

We have considered the sensitivity of income tax revenue from pensioners, with respect to the assumptions on real earnings growth, opt out rates, membership of existing occupational pensions, investment return and the percentage of pension income taken as a lump sum. The results are set out in Figure 61, Figure 62, Figure 63, Figure 64 and Figure 65 respectively.

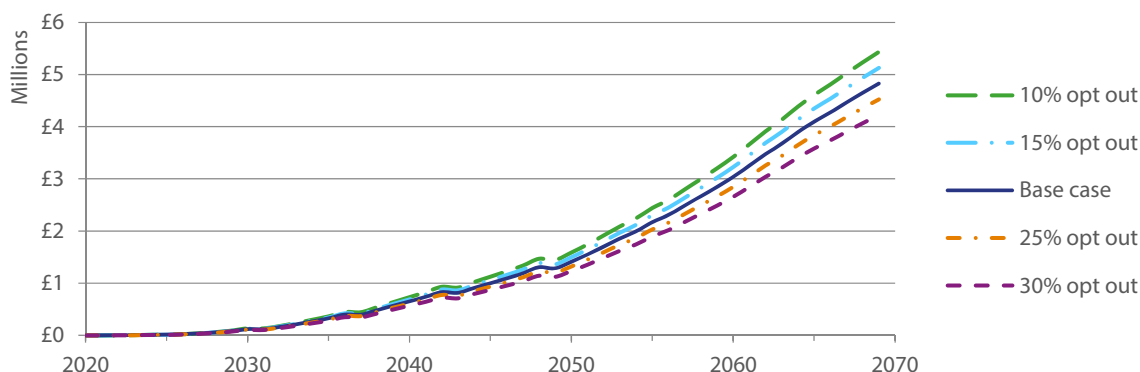
Figure 61. Marginal impact on income tax revenue from pension age population: sensitivity to the assumption on real earnings growth



The assumption on real earnings growth will impact on the amount contributed to the Secondary Pension Scheme and will therefore impact on the tax paid on pension income.

- If the real earnings growth is 0.5% lower than expected, then in income tax revenue from the pension age population would be 4% lower than the base case by 2069
- If the real earnings growth is 0.5% higher than expected, then in income tax revenue from the pension age population would be 7% higher than the base case by 2069

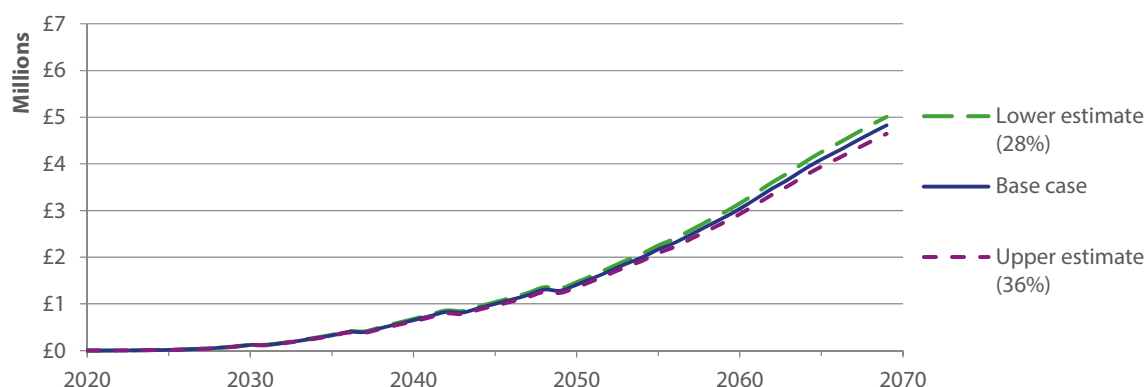
Figure 62. Marginal impact on income tax revenue from pension population: sensitivity to opt out rates



If opt out rates are lower than assumed then the income tax revenue would be proportionately higher than in the base case, while at higher opt out rates would have a smaller impact:

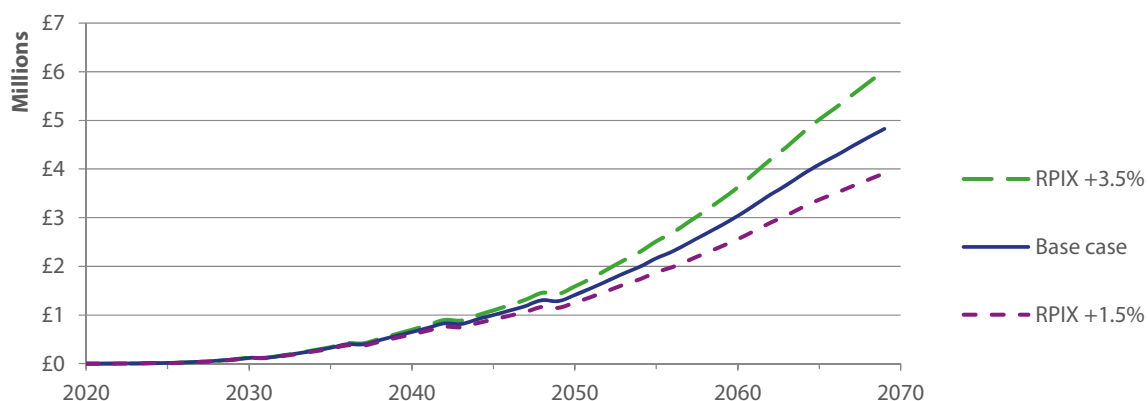
- If the opt out rate is 10%, the gain in income tax revenue would be 12.5% higher than the base case
- If the opt out rate is 15%, the gain in income tax revenue would be 6.3% higher than the base case
- If the opt out rate is 25%, the gain in income tax revenue would be 6.3% lower than the base case
- If the opt out rate is 30%, the gain in income tax revenue would be 12.5% lower than the base case.

Figure 63. Marginal impact on income tax revenue from pension population: sensitivity to assumption on percentage of employees with existing occupational pension



The income tax projections are less sensitive to the assumption on the percentage of employees with an existing occupational pension than they are to the opt out rates. The lower estimate means that more people would contribute to the new Secondary Pension Scheme than assumed, so more people would receive pension income in retirement, and the income tax revenue from the pension age population would be greater. Conversely, if fewer people contribute to a secondary pension, the income tax revenue would be smaller. The variation around the base case is $\pm 4\%$.

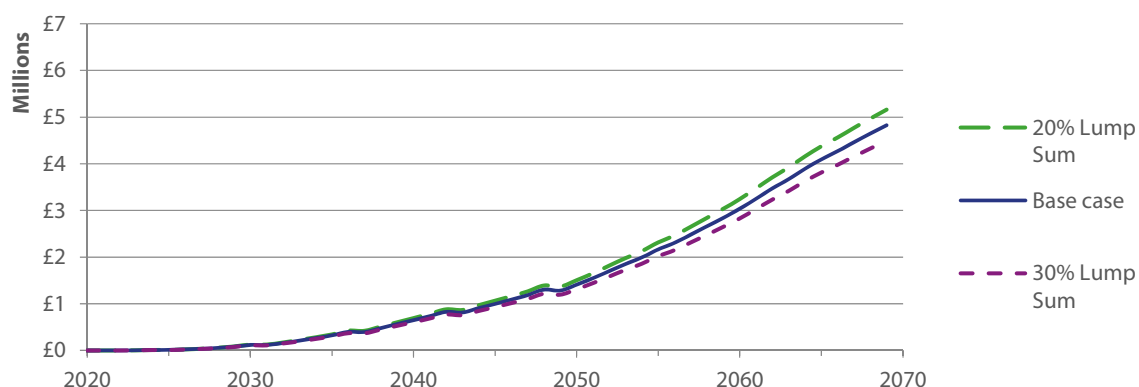
Figure 64. Marginal impact on income tax revenue from pension population: sensitivity to investment return



The income tax projections are sensitive to the assumption on investment return. If the investment return is lower than assumed then pension incomes will be lower and the gain in income tax revenue would be lower. Conversely, if the investment return is higher than assumed, pension incomes would be higher and the gain in income tax revenue would be higher.

- If investment return is RPIX +1.5% per annum then the gain in income tax revenue is projected to be almost 20% lower than in the base case by 2069.
- If investment return is RPIX +3.5% per annum then the gain in income tax revenue is projected to be 25% higher than in the base case by 2069.

Figure 65. Marginal impact on income tax revenue from pension age population: sensitivity to percentage taken as lump sum



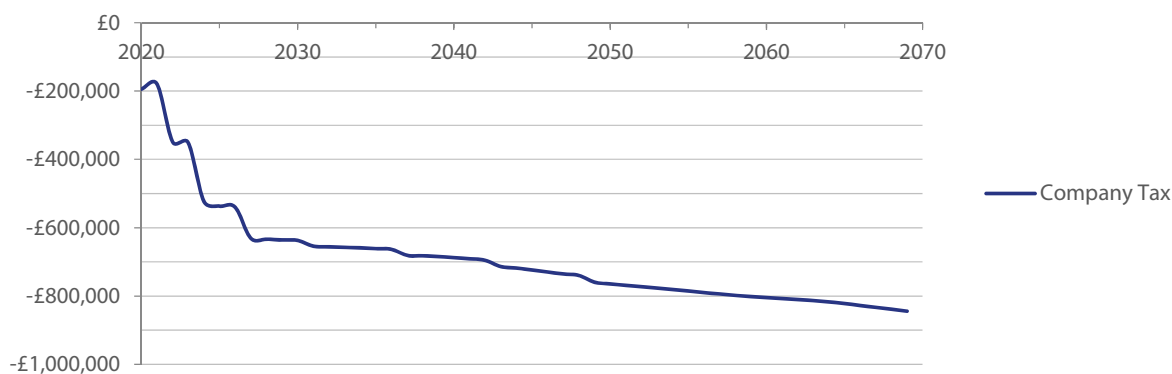
The amount an individual receives in pension income depends on how much is taken as a tax-free lump sum upon retirement. The maximum lump sum permitted by the income tax legislation is 30% of the value of a person's benefits. The first £188,000 of the lump sum (in 2017) is tax-free.

- If individuals take 20% as a lump sum payment (compared to 25% in the base case), then the marginal impact on income tax revenue would be 7% higher than in the base case.
- If 30% is taken as a lump sum, the marginal impact on income tax revenue would be 7% lower than in the base case.

7.2 Marginal Impact on Company Tax Revenue

The introduction of the Secondary Pension Scheme is expected to reduce company tax revenue. As firms incur additional costs, this will have a negative impact on company profits. The economic model estimates the marginal impact on company tax revenue, taking into account the economic sector and employer size. We have assumed there are no changes to the existing company tax policy and rates.⁵⁰ The estimated marginal impact of the Secondary Pension Scheme on company tax revenue over the next 50 years is shown in Figure 66.

Figure 66. Marginal impact of the Secondary Pension Scheme on company tax revenue



By 2027 the loss is projected to be approximately £630,000, which is 1.3% of the total revenue from company tax that was received in 2016.⁵¹ From 2027 the loss in company tax revenue increases gradually, in line with real earnings. The impact on company tax revenue is relatively limited, since most companies do not pay company tax, and those sectors (such as finance, energy and large retail) are already more likely to provide their employees with an occupational pension.

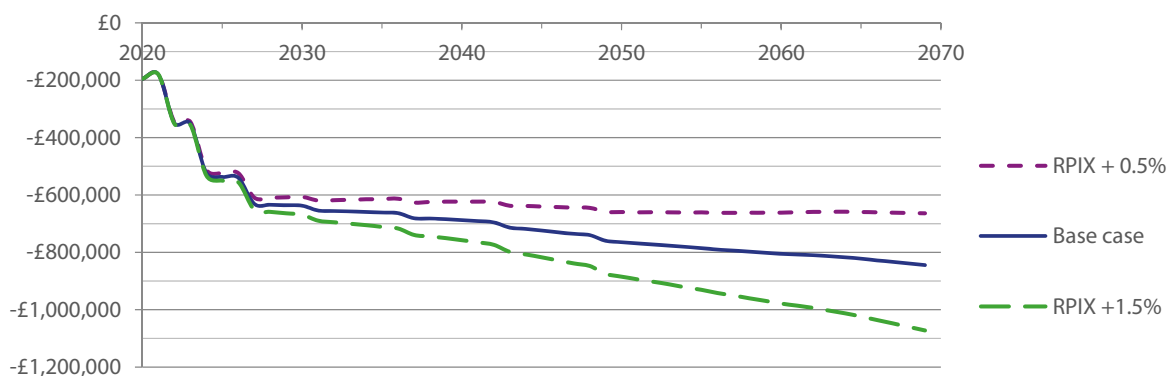
⁵⁰ Tax for businesses, companies and employers: <https://www.gov.gg/article/120167/Tax-for-businesses-companies-and-employers>. Accessed on 28 October 2017. The amount paid in company tax depends on the source of income. The company standard rate of 0% applies to most companies, though companies in the finance sector typically pay the company intermediate rate of 10%. There are also some sources of income subjected to a company higher rate of 20%.

⁵¹ States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016. The accounts reported that total revenue from company tax was £47 million in 2016.

7.2.1 Impact on Company Tax Revenue: Sensitivity Analysis

We have considered the sensitivity of the company tax revenue with respect to the assumptions on real earnings growth, the opt out rate, membership of existing occupational pensions, and the extent to which employers incur the additional cost of the Secondary Pension Scheme. The results are shown in Figure 67, Figure 68, Figure 69 and Figure 70.

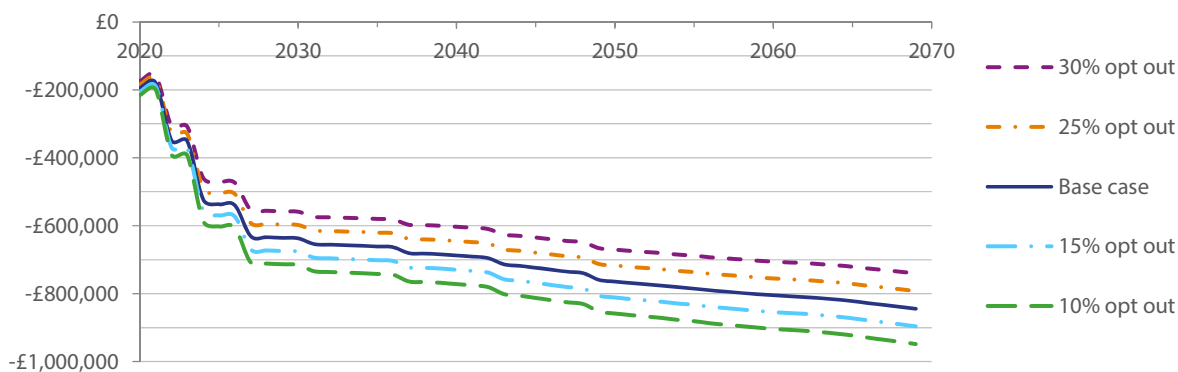
Figure 67. Marginal impact on company tax revenue: sensitivity to the assumption on real earnings growth



The company tax projections are sensitive to the assumption on real earnings growth.

- If real earnings growth is RPIX +0.5% per annum then the loss in income tax revenue is projected to be 21% lower than in the base case by 2069.
- If real earnings growth is RPIX +1.5% per annum then the loss in income tax revenue is projected to be 27% higher than in the base case by 2069.

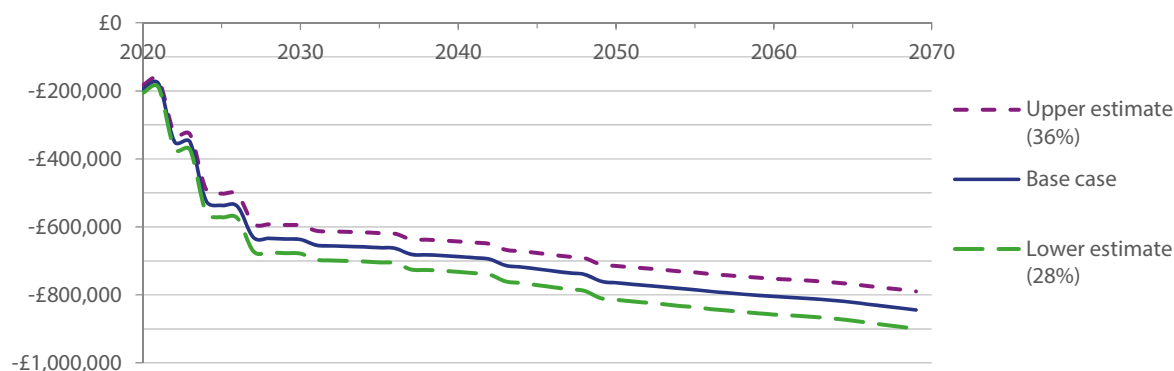
Figure 68. Marginal Impact on company tax revenue: sensitivity on opt out rates



If opt out rates are lower than assumed then the loss in company tax revenue would be greater than in the base case, while higher opt out rates would have a smaller impact on company tax revenue:

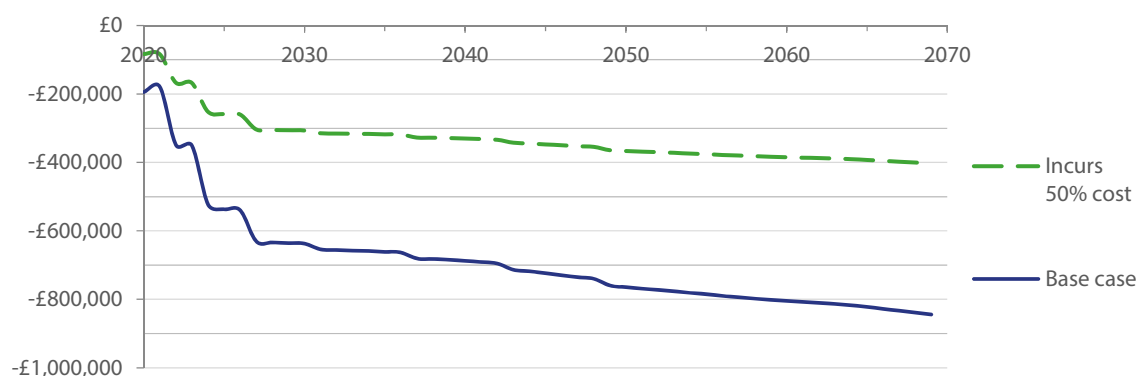
- If the opt out rate is 10%, company tax revenue would be 12% higher than the base case
- If the opt out rate is 15%, company tax revenue would be 6% higher than the base case
- If the opt out rate is 25%, company tax revenue would be 6% lower than the base case
- If the opt out rate is 30%, company tax revenue would be 12% lower than the base case.

Figure 69. Marginal impact on company tax revenue: sensitivity on assumption on percentage of employees with existing occupational pension



The company tax projections are also sensitive to the assumption on the percentage of employees with an existing occupational pension. The lower estimate means that more employees would contribute to the new Secondary Pension Scheme than assumed, so employers would contribute more into secondary pensions, incur higher costs, have lower profits and the marginal impact on company tax revenue would be greater. Conversely, if fewer employees are enrolled into the new secondary pension than assumed, there would be a smaller impact on company profits and the marginal impact on company tax would be smaller. The variation around the base case result is $\pm 6.5\%$.

Figure 70. Marginal impact on company tax revenue: sensitivity on employer response

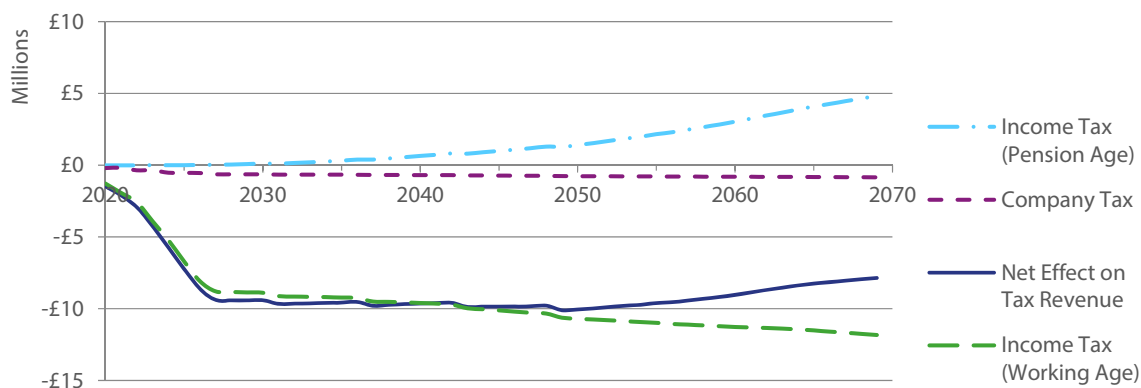


The marginal impact on company tax revenue is especially sensitive to the assumption about the employers' response to the introduction of the Secondary Pension Scheme. In this respect, the base case represents a worst case scenario, as it is assumed that 100% of the cost of the secondary pension is borne by the employer. As discussed in Section 6, employers are likely to look to mitigate the cost and may do this in a number of ways. The sensitivity analysis shows the marginal impact on company tax revenue if employers are able to recover 50% of the costs they incur. In this scenario, the marginal impact on company tax revenue is halved.

7.3 Marginal Impact on Government Revenue

The net impact of the Secondary Pension Scheme on government revenue is illustrated in Figure 71, along with its component parts: the marginal impact on income tax from the working age and pension age populations, and marginal impact on company tax. It should be noted that the impact of Secondary Pension Scheme on distributed profits has not been estimated. This omission may mean the impact is underestimated but is unlikely to be significant as distributed profits yield only 2% of government revenue.⁵²

Figure 71. Marginal impact of the Secondary Pension Scheme on government revenue



This figure is very similar to Figure 51 since the loss of company tax is small relative to the loss in income tax revenue. By 2027, the loss in government revenue is projected to be £9.4 million.⁵³ By 2069 the projected loss in government revenue is projected to be £7.9 million. Over time, the magnitude of the loss in revenue is reduced as there will be an increasing number of pension age individuals who have participated in the Secondary Pension Scheme. In addition, pension incomes will be increasing over this period as the individuals retiring will have contributed to a secondary pension for more of their working life.

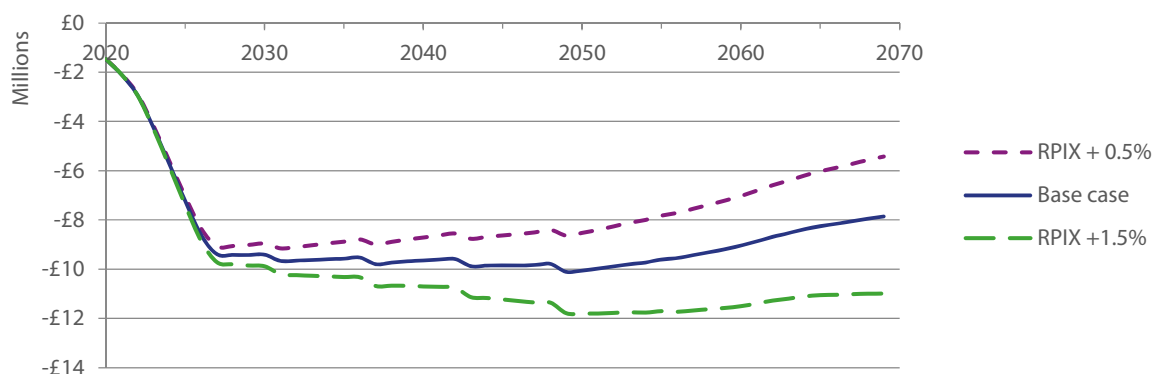
⁵² States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016. Distributed profits were £10 million in 2016.

⁵³ States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016. Total general revenue income was £407 million in 2016.

7.3.1 Impact on Government Revenue: Sensitivity Analysis

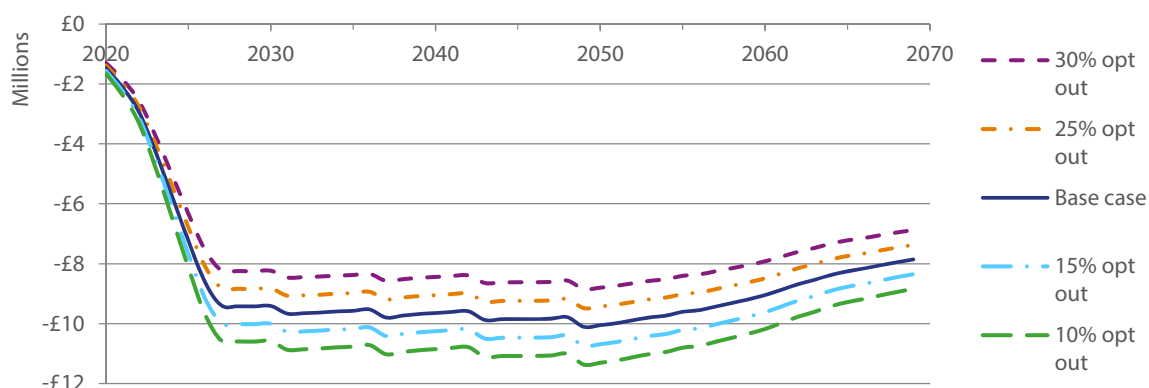
We have considered the sensitivity of government revenue with respect to the assumptions on real earnings growth, the opt out rate, membership of existing occupational pensions, the investment return and the percentage of pension income taken as a lump sum. The results are shown in Figure 72, Figure 73, Figure 74, Figure 75 and Figure 76 respectively.

Figure 72. Marginal impact on government revenue: sensitivity to the assumption on real earnings growth



The results are diverging in Figure 72 as the assumption on real earnings growth has a compounding impact over time. Figure 72 shows the combined effect of the loss in income revenue from the working age population, the gain in income revenue from the pension age population and the loss in company tax revenue (Figure 58, Figure 61 and Figure 67).

Figure 73. Marginal impact on government revenue: sensitivity to opt out rates



The lines converge slightly, reflecting the combined effect of the loss in revenue from the working age population and the gain in revenue from the pension age population (Figure 58 and Figure 61). The working age population eligible to participate in the Secondary Pension Scheme remains relatively stable over the next 50 years, however the proportion of the pension age population who will have contributed to a secondary pension will increase gradually. By 2100 almost all individuals of pension age would have had the opportunity to participate and have contributed for their entire working lives.

Figure 74. Marginal impact on government revenue: sensitivity to assumption on percentage of the employees with existing occupational pension

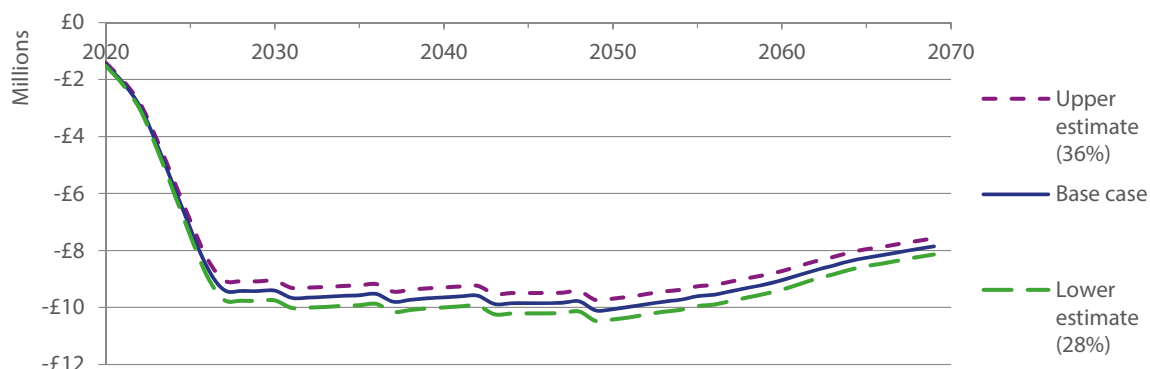
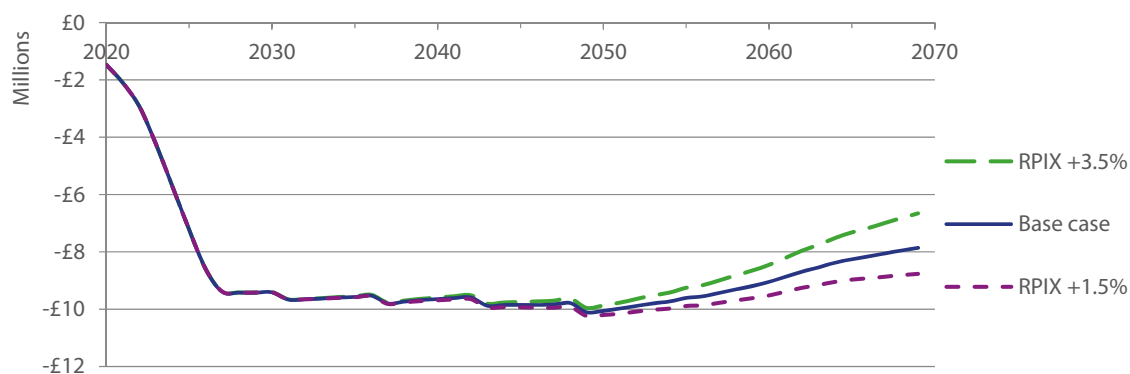


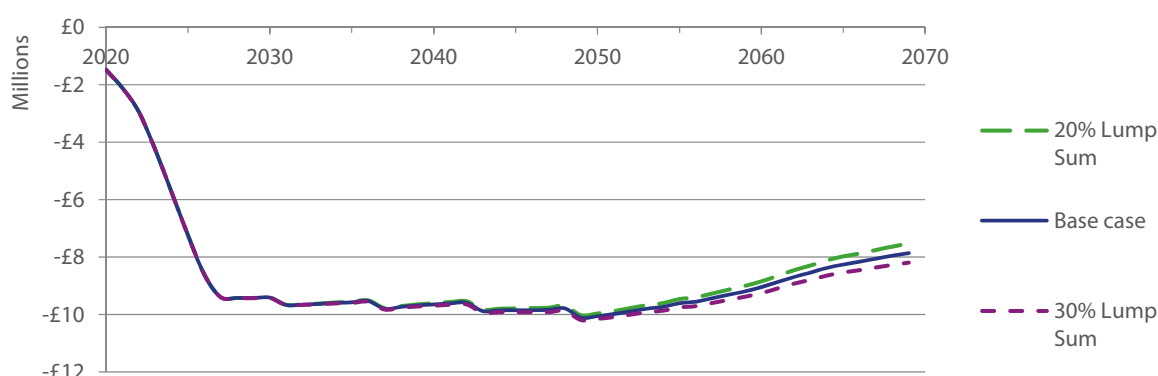
Figure 74 shows the marginal impact on the sensitivity around the assumption about the percentage of individuals who are a member of an existing occupational pension. The impact is small compared to the opt-out rates.

Figure 75. Marginal impact on government revenue: sensitivity to the investment return



The results are diverging in this scenario, since the investment return assumption only impacts on the income tax revenue from the pension age population. If the investment return is higher than assumed, the loss in government revenue would be smaller.

Figure 76. Marginal impact on government revenue: sensitivity to percentage taken as lump sum



Again, the results are diverging in this scenario (Figure 76) and this is because the assumption on the amount taken as a lump sum only impacts on the income tax revenue from the pension age population. The projections are less sensitive to the assumption on the lump sum than they are to the investment return.

7.4 Marginal Impact on Government Expenditure

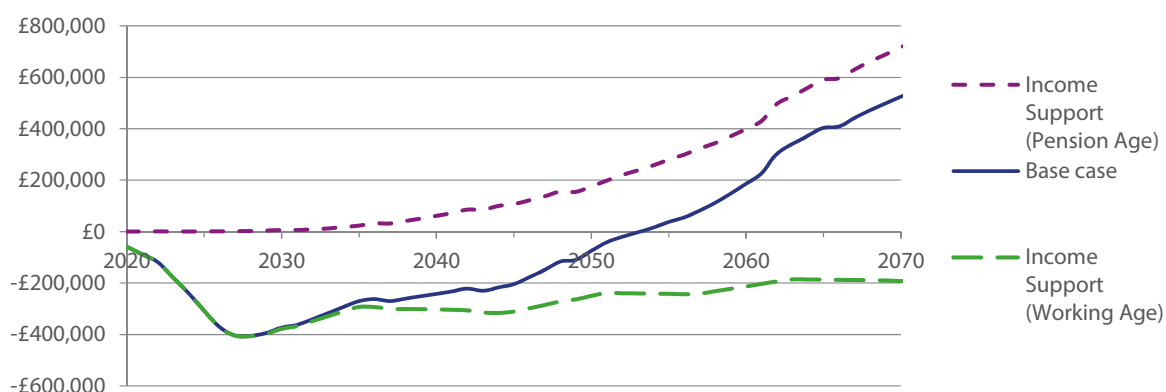
The Secondary Pension Scheme will impact on the amount the government will spend on income support in two ways:

- Individuals contributing to a secondary pension who are eligible for income support may receive more income support as pension contributions are deducted as an allowable expense.
- Individuals receiving income from a secondary pension may no longer be eligible for income support or receive a reduced payment.

The assumptions in the economic model around the impact of the Secondary Pension Scheme on income support on household income are set out in Section 5.3.1. In estimating the marginal impact on income support at the population level, we also take into account the profile of those currently receiving either supplementary benefit or rent rebate with respect to their age, gross taxable income, and employment status. We also take into account the States' assumption that earnings will grow in real terms, while benefits will remain constant in real terms from 2025. However, some simplifying assumptions were necessary and the inflections from 2060 onwards correspond to the income profile on which the modelling was based.

Figure 77 shows the cost of income support on the government budget, with an increase in expenditure shown as a cost (i.e. negative) and a reduction in expenditure is cost saving (i.e. positive).

Figure 77. Marginal Impact of the Secondary Pension Scheme on Government Budget relating to income support



In the short-term the Secondary Pension Scheme will mean income support expenditure is expected to be slightly higher, since pension contributions are allowed for in the income support assessment. In the base case scenario, the spending on income support expenditure will increase to a maximum around £400,000. This occurs in 2027 and the cost is equivalent to 2% of the amount spent on supplementary benefit in 2016.⁵⁴

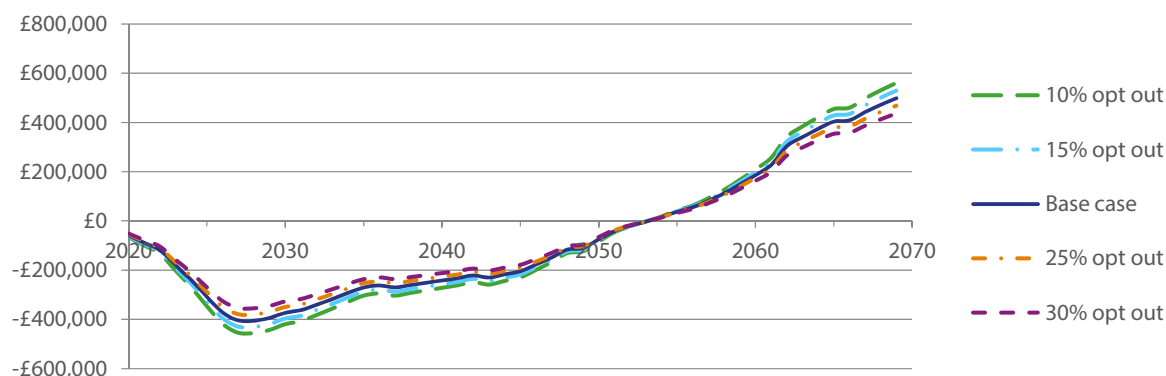
The marginal cost will reduce over time and ultimately becomes cost saving. By 2069 it is estimated that the government would be saving £500,000, which is equivalent to 2.5% of the amount spent on supplementary benefit in 2016. The cost reduces because, the real earnings growth assumption means there will be fewer individuals eligible for income support, and also because there will be more individuals receiving an income from a secondary pension and so fewer pensioners who need income support. In addition, pension incomes will be increasing over this period as the individuals retiring will have contributed to a secondary pension for more of their working life.

⁵⁴ States of Guernsey (2017). Billet d'Etat XIII 2017. The States of Guernsey Accounts 2016. The accounts reported net revenue expenditure on supplementary benefit was £20.983 million in 2016.

7.4.1 Impact on Government Expenditure on Income Support: Sensitivity Analysis

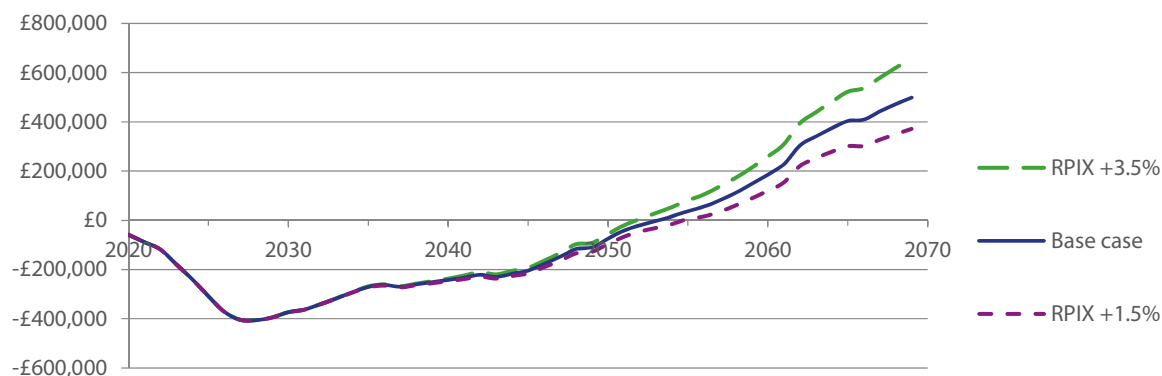
We have considered the sensitivity of government expenditure on income support, with respect to the assumptions on opt out rates, and the investment return and the percentage of pension income taken as a lump sum. The results are presented in Figure 78, Figure 79 and Figure 80 respectively.

Figure 78. Marginal impact on income support: sensitivity to opt out rates



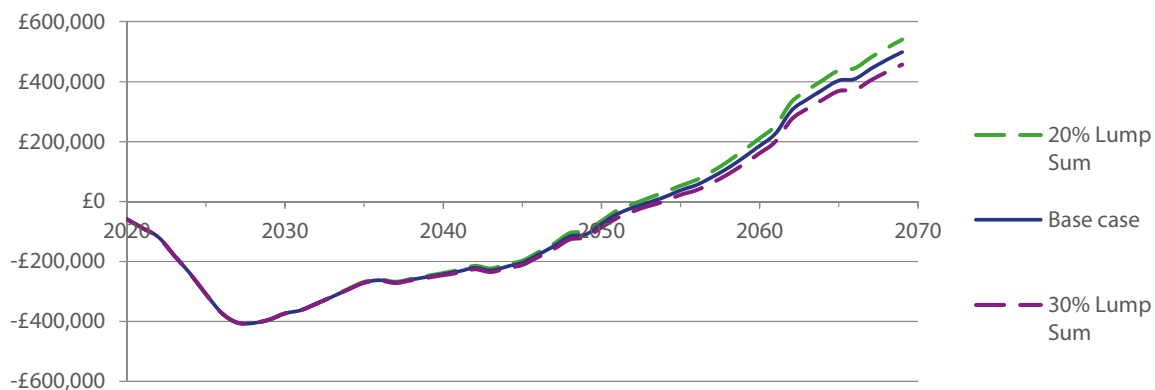
If the opt out rates are lower than assumed then the marginal impact on the government budget will be greater than the base case, while higher opt out rates the impact will have a smaller effect. The lines converge, reflecting the combined effect of the increased income support expenditure on the working age population and a reduced income support expenditure on pension age population.

Figure 79. Marginal impact on income support: sensitivity to investment return



The results are diverging in this scenario, since the assumption on the investment return only impacts on the income support expenditure on the pension age population. If the investment return is higher than assumed, pension incomes will be higher and the pension age population will be less reliant on income support. If the investment return is lower than assumed then the budgetary impact will be greater.

Figure 80. Marginal impact on income support: sensitivity to percentage taken as lump sum



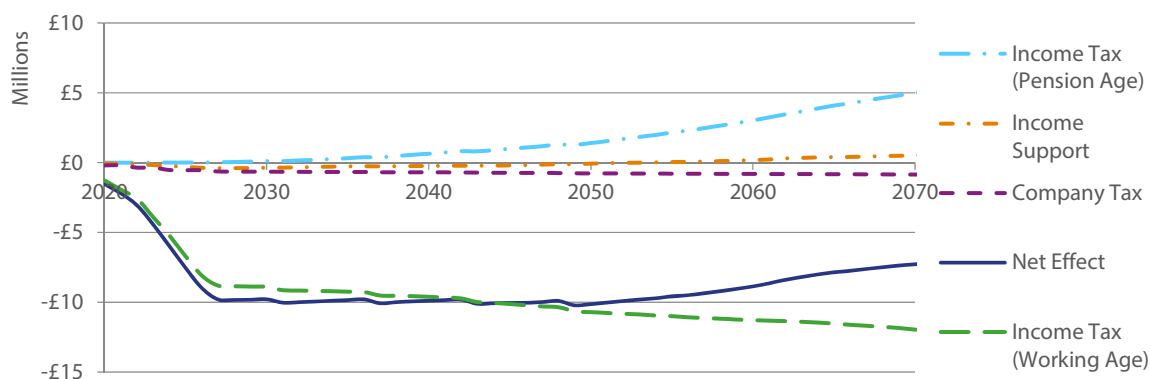
The results are also diverging in this scenario, since the assumption on the amount taken as a lump sum only impacts on the income support paid to the pension age population. The projections are less sensitive to the assumption on the lump sum than they are to the investment return.

7.5 Marginal Impact on Overall Government Budget

This section brings together the projected marginal impact on income tax revenue, company tax revenue and income support and considers the overall impact on the government budget. Figure 81 presents the net effect on the government budget along with its component parts:

- income tax revenue from working age and pension age population
- company tax revenue
- expenditure on income support.

Figure 81. Marginal impact of Secondary Pension Scheme on overall government budget



Over the projection period considered the Secondary Pension Scheme will increase costs for the government. The Secondary Pension Scheme is expected to have a marginal cost of £9.8 million in 2027 when the individual contribution rate reaches the maximum rate of 6.5%. In the short-to medium term, the net effect is dominated by the loss in income tax revenue from the working age population due to the tax relief on pension contributions. By 2069, the marginal cost will have reduced slightly and is projected to be £7.4 million, which includes a loss of £11.8 million in income tax revenue from the working age population.

Over time there will be a gain in income tax revenue from the pension age population, due to the increasing number of pensioners who have participated in the Secondary Pension Scheme. Average pension incomes are also increasing over this period (as they will have contributed for more of their working life). The loss of company tax revenue will be approximately £850,000 by 2069, which is small relative to the loss in income tax revenue. The impact on income support payment is also relatively small. Initially the cost of income support will increase, but the impact is projected to be cost saving by 2054.

7.5.1 Impact on Government Expenditure on Income Support: Sensitivity Analysis

We have considered the sensitivity analysis of the government budget, with respect to the assumptions on real earnings growth, opt out rates, membership of existing occupational pensions, the investment return and the percentage of pension income taken as a lump sum. The results are presented in Figure 82, Figure 83, Figure 84, Figure 85 and Figure 86.

Figure 82. Marginal impact on government budget: sensitivity to the assumption on real earnings growth

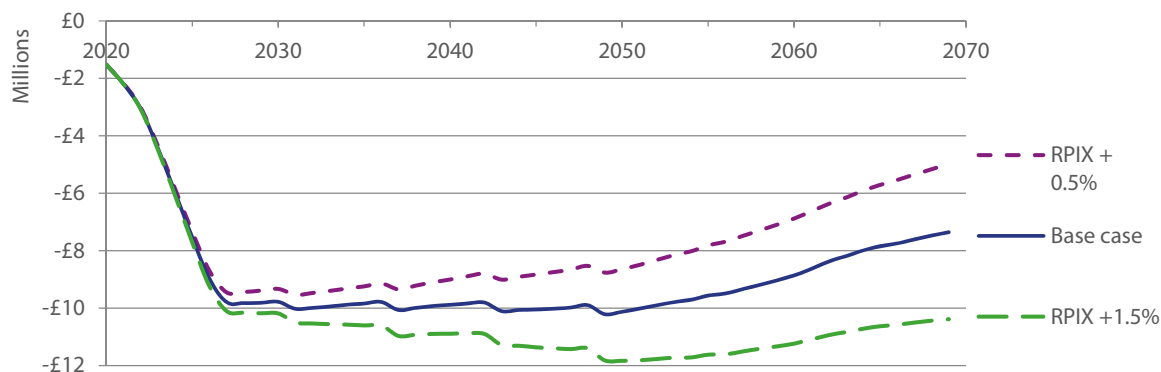


Figure 82 shows how the assumption on real earnings growth impacts on the government budget, with the effect becoming more pronounced over time.

Figure 83. Marginal impact on government budget: sensitivity to opt out rates

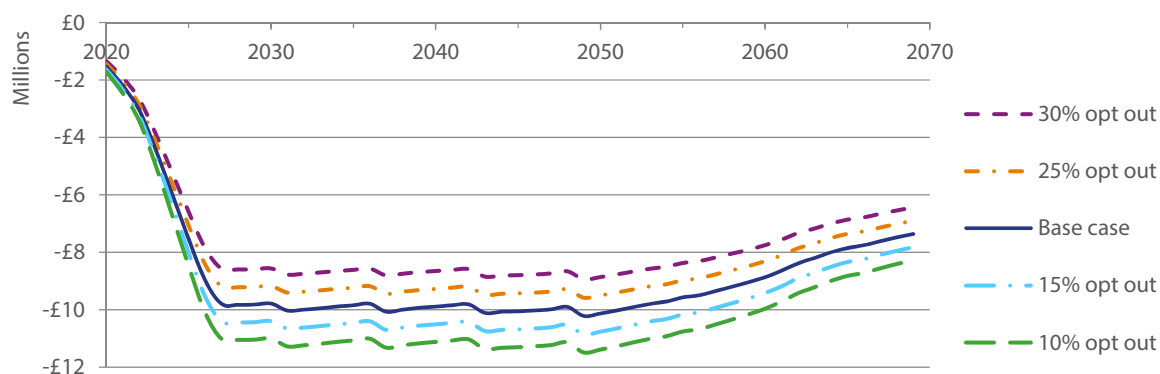


Figure 83 shows how variation in the assumption on the opt out rate will impact on the government budget. The lines appear to converge, and this reflects the combined effect on the working age population (i.e. reduced income tax revenue and higher spend on income support) and the pension age population (i.e. greater income tax revenue and lower spend on income support).

Figure 84. Marginal impact on government budget: sensitivity to assumption on percentage of employees with existing occupational pension

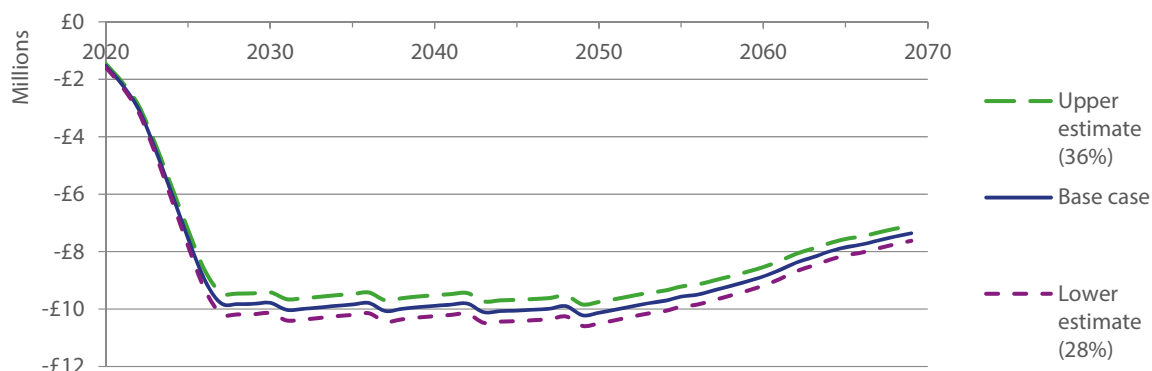
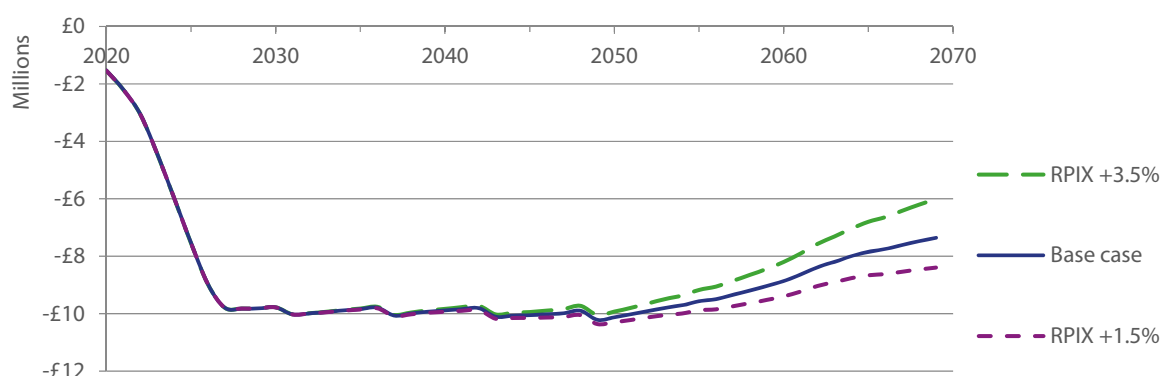


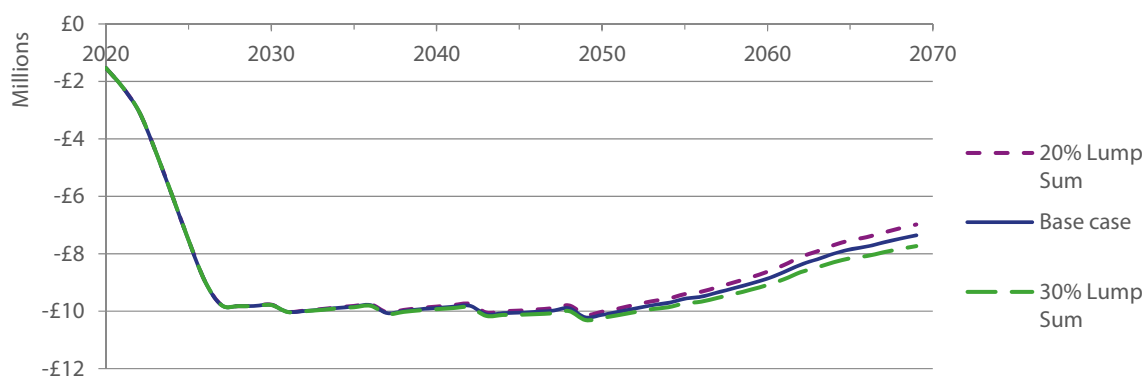
Figure 84 shows the marginal impact on the sensitivity around the assumption about the percentage of individuals who are a member of an existing occupational pension. The variation is smaller than that on the opt-out rates, and as in the last scenario the impact converged because the assumption impacts on both the working age and the pension age populations.

Figure 85. Marginal impact on government budget: sensitivity to investment return



The results are diverging in this scenario, since the assumption on the investment return only impacts on the pension age population. If the investment return is higher than assumed in the base case then the marginal cost to the government would be smaller.

Figure 86. Marginal impact on government budget: sensitivity to percentage taken as lump sum



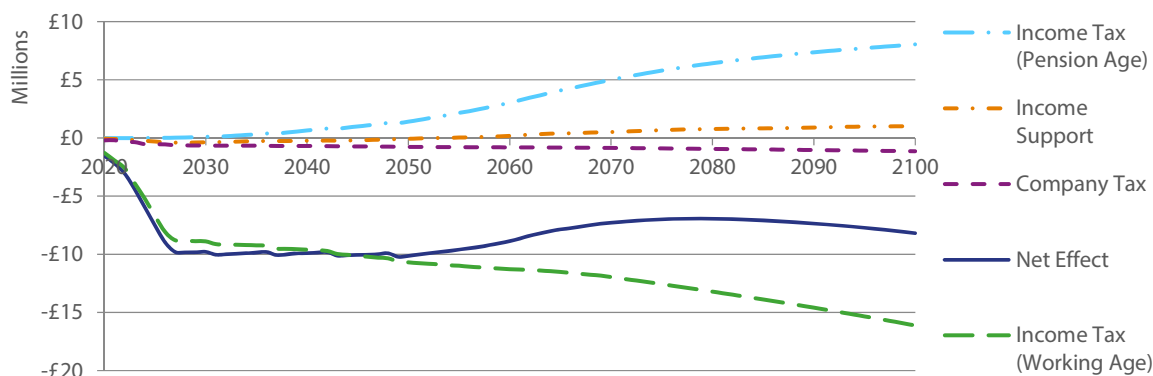
As above, the results are diverging slightly in this scenario, since the assumption on the amount taken as a lump sum only impacts on the income tax revenue from the pension age population. The sensitivity of the projections to the assumption on the lump sum is less than to the investment return.

7.6 Estimating the impact beyond 2069

We have extrapolated to estimate the impact of the Secondary Pension Scheme beyond 2069 to provide an indication of the impact in the very long-term, when all individuals in the population have had the opportunity to participate in the Secondary Pension Scheme, and all pensioners would have been able to contribute to a secondary pension for their working life.

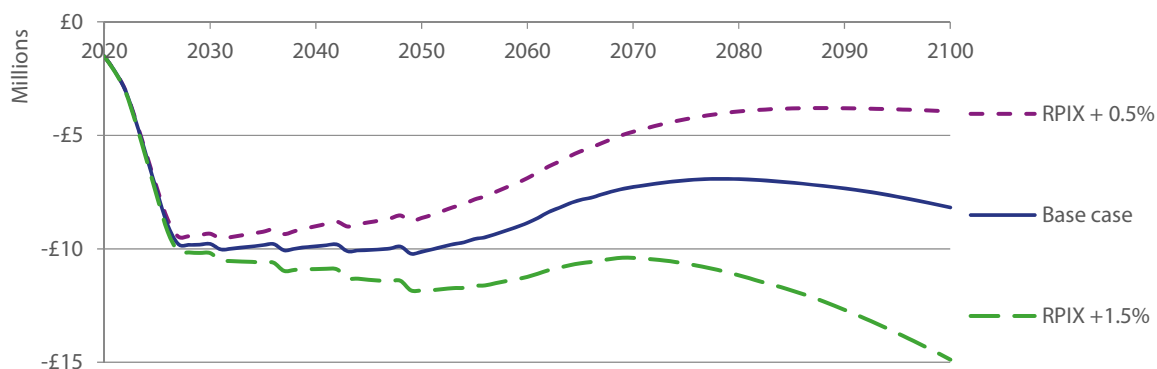
Figure 87 shows the projected marginal impact on the government budget, assuming the population size and age distribution remains stable after 2069.

Figure 87. Marginal impact on overall government budget (2020 to 2100)



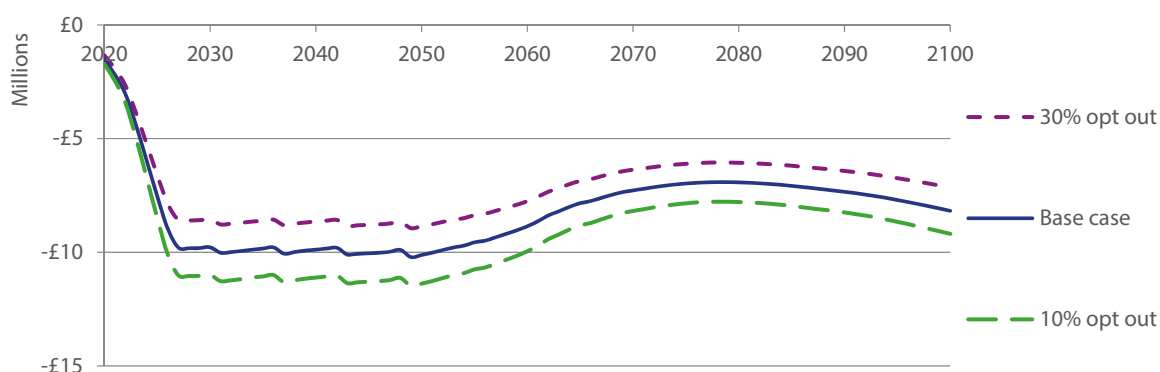
We have considered the sensitivity analysis of the government budget, with respect to the assumptions on real earnings growth, opt out rates and the investment return. The results are presented in Figure 88, Figure 89 and Figure 90.

Figure 88. Marginal impact on overall government budget (2020 - 2100): sensitivity to the assumption on real earnings growth



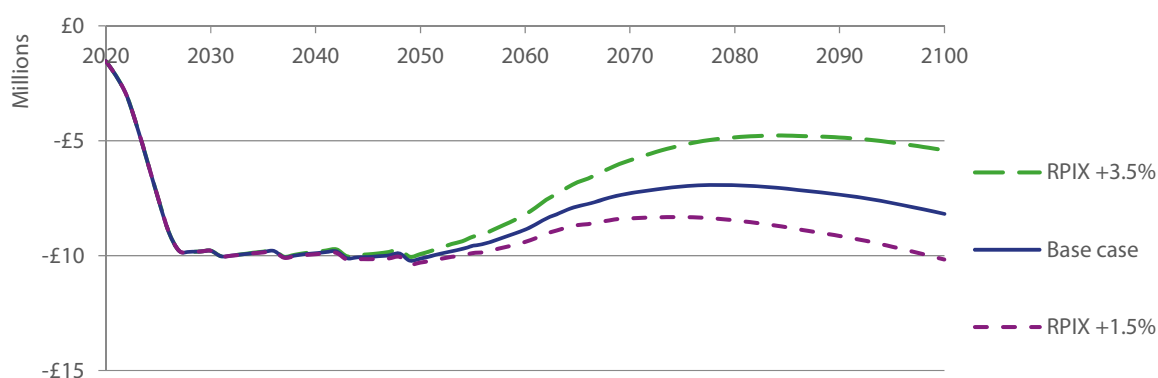
Over the very long term the marginal impact on the government budget is extremely sensitive to the assumption on real earnings growth because it has a compounding effect. However, as discussed in Section 7.1, the assumptions on real earnings growth will also mean total income tax revenue will be increasing over this period.

Figure 89. Marginal impact on overall government budget (2020 - 2100): sensitivity to opt out rates



As Figure 89 shows, the assumption on the opt out rates has relatively minimal impact in the very long-term. The variation is relatively small because the reduction in the income tax revenue from the working age population is largely offset by the increase in income tax revenue from the pension age population.

Figure 90. Marginal impact on overall government budget (2020 - 2100): sensitivity to investment return



The long-term projections are sensitive to the assumption on the investment return. As Figure 90 shows, the difference between the lower and upper estimates on investment return is projected to be of the order of £5 million in current prices. This highlights that the rate of investment return achieved on the Secondary Pension Scheme is central to achieving the policy aims.

7.7 Change of Tax Strategy from EET to TEE

The impact of the Secondary Pension Scheme has been estimated assuming that the tax system remains “Exempt-Exempt-Taxed” (EET). This means secondary pension contributions are exempt from tax, investment income and capital gains are also exempt, but pension income is subject to income tax. TEE is an alternative tax system, in which pension contributions are taxed, but returns and pension income are tax-free.

A change in tax strategy would have a very different impact on the government budget. In the short- to medium-term, the Secondary Pension Scheme would have almost no impact on the government budget as there would be no loss in income tax receipts from the working age population. The downside is in the long-term, as under TEE there would be no income tax revenue generated from the additional pension income.

In theory, both approaches are valid. On first consideration, a change in tax strategy has merit from a fiscal perspective. However, the challenge is switching from one system to the other. The Economist decried the complications involved in such a shift as “mind-boggling” and likened the change to “decreeing that British cars should shift to driving on the right, with the move phased in gradually”.⁵⁵

A key part of the challenge is that the change in tax system would impact on existing pensions. Presumably TEE would only apply to benefits arising from future contributions. If it did not, individuals could transfer their existing pension on which they had received tax relief, to a new one in which they would not have to pay tax on pension income. So this means anyone who already has a pension, would have need to have two schemes going forward, one under EET and the other under TEE.

Opt out rates would be expected to be much higher under TEE. Paying tax on pension contributions would lead to a much larger reduction in disposable income, and incentives for retirement saving would be undermined. In addition, if employee contributions were to be taxed, then individuals already in a pension scheme would effectively receive a reduction in net pay.

Finally, given that population projections show an ageing demographic and a slight reduction in the size of the working population, the fiscal pressures are only likely to increase over time. This suggests that the additional tax revenue from pension income will be critical for the long-term fiscal situation in Guernsey and Alderney.

⁵⁵ The Economist (2015). “EET your TEE, George” from 5 August 2015, <https://www.economist.com/blogs/buttonwood/2015/08/pensions-and-tax>

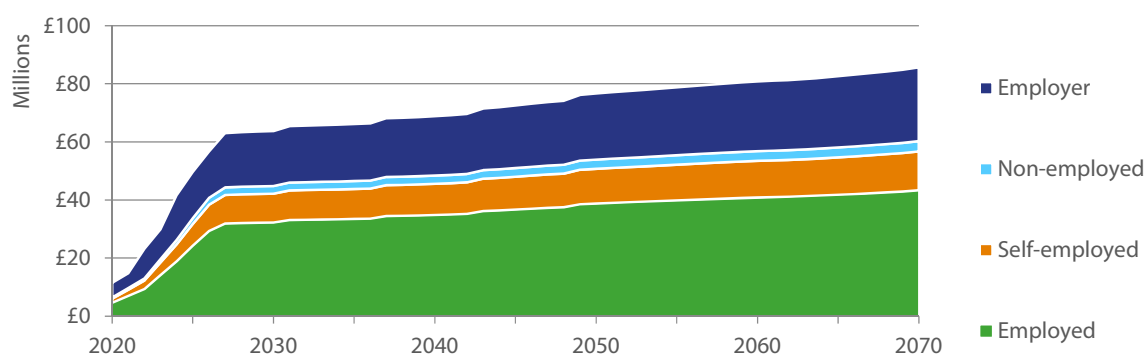
8. Impact on the Economy

The Secondary Pension Scheme will have an impact on the local economy. The overall economic impact will reflect the combined effect on individuals and households, on firms and on the government budget. In this section we discuss the implications of the Secondary Pension Scheme for saving, consumption, the labour market and economic growth.

8.1 Impact on Saving

The Secondary Pension Scheme is expected to increase the amount of pension saving. Figure 91 shows the annual pension contributions into the Secondary Pension Scheme⁵⁶ from new members by type of contributor.

Figure 91. Annual pension contributions in the Secondary Pension Scheme from new members



It is expected that the annual pension contributions from new members will be in the region of £60 million by 2027, with £40 million from individuals and £20 million from employers. From 2027, annual pension contributions increase in line with real earnings growth. However, it is important to acknowledge that not all of the increase in saving will constitute new or additional saving as some people will substitute away from existing savings once they start contributing to a Secondary Pension Scheme. In the UK it was estimated that up to 70% of new savings could be generated by the introduction of auto-enrolment into “Workplace Pensions”.⁵⁷ The features of the Workplace Pension that were designed to encourage new saving included automatic enrolment, mandatory employer contributions, and tax relief on pension contributions. In addition, the scheme was intended to target lower and middle income earners.

⁵⁶ Includes contributions in the States-facilitated scheme and alternative qualifying schemes.

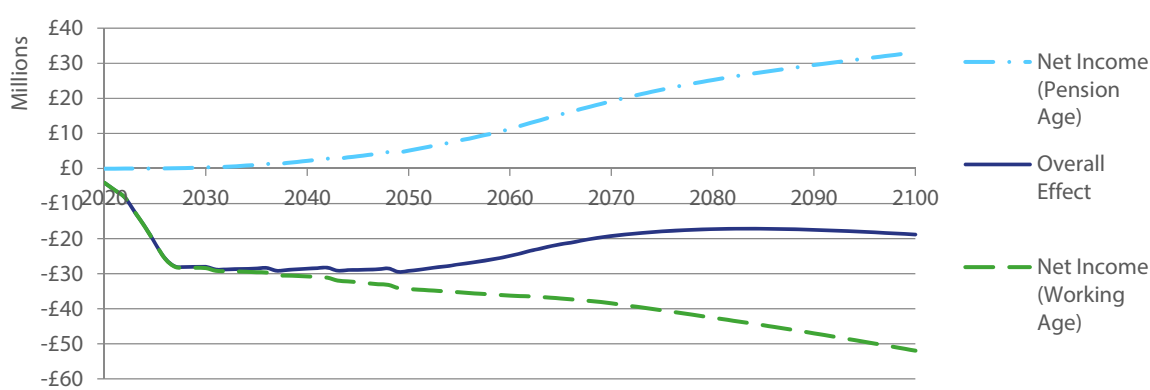
⁵⁷ Department for Work and Pensions (2010). Workplace pension reform regulations. Impact assessment.

8.2 Impact on Consumption

Individuals who pay into a secondary pension will see a reduction in their disposable income. This will lead to a reduction in consumer spending, especially in the short-term. However, in time, consumption will increase as pensioners who have contributed to the Secondary Pension Scheme will have higher incomes in retirement and would be expected to spend at least some of their additional income.

The impact of the Secondary Pension Scheme on consumption can be estimated from the projected change in net income for the population as a whole. In the base case, it is assumed that the average marginal propensity to consume is 0.8, which means that 80% of additional income would be spent. Other economic conditions are presumed to remain stable. Figure 92 shows the marginal impact of the Secondary Pension Scheme on consumption for the period 2020 to 2100 for the entire population, and also disaggregated for the working age and pension age populations.

Figure 92. Marginal impact of Secondary Pension Scheme on annual consumption



The pattern is a familiar one. At the population level, consumption is projected to reduce in the short-term. The reduction in consumption is estimated to be close to £30 million by 2027, when contribution rates reach their maximum levels. This reduction in consumption is sustained until 2050. Thereafter the impact then begins to reduce because there will be an increasing number of pensioners benefiting from additional pension income.

It should be noted that these estimates are from a partial equilibrium analysis, and therefore focus only on the first-round effects. In other words, the estimates do not take into account interaction with other economic variables, or any second-round effects, that may result from the initial change in consumption. In addition, the impact on consumption has been estimated from the change in saving among individuals. It does not take into account any changes in consumption that may arise from the employers' pension contribution.⁵⁸ Nevertheless, the simple modelling helps to give some indication of the magnitude of the impact.

The projected changes in consumption is small relative to GDP, which was estimated to be £2,355 million in 2015. This means that the change in consumption is equivalent to a loss of approximately 1% of GDP in the short-term; it is likely to be less than 1% of GDP in the long-term. The impact on the local economy will also depend on the extent to which it changes consumer spending within Guernsey and Alderney. At least some

⁵⁸ For example, it does not take into account the impact of the SPS on pay awards and bonuses. If salary increases and bonuses are lower, consumer spending is also expected to fall. The economic impact of the employers' contribution on wages, the labour market and investment rates are discussed in Sections 8.3 and 8.4.

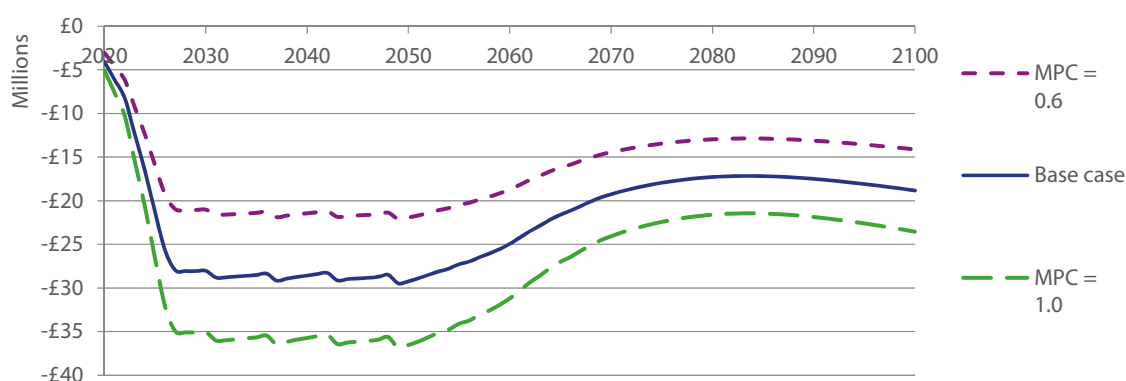
of the change in consumption is likely to impact on spending on goods or services from elsewhere (including goods directly imported from UK suppliers).

Research undertaken in the UK prior to the introduction of the Workplace Pensions, which used a general equilibrium model, concluded that the reduced consumption would have a minimal impact on economic output. In the short-term they estimated that the impact would not exceed -0.15% of GDP, and that in the medium- to long-term the economy would adjust to the new level of savings and gradually revert back to the original growth path.⁵⁹

8.2.1 Impact on Consumption: Sensitivity Analysis

We have considered the sensitivity of consumption to the assumption on the average marginal propensity to consume (MPC), real earnings growth and the investment return. The results are presented in Figure 93, Figure 94 and Figure 95 respectively.

Figure 93. Marginal impact on annual consumption: sensitivity to marginal propensity to consume (MPC)

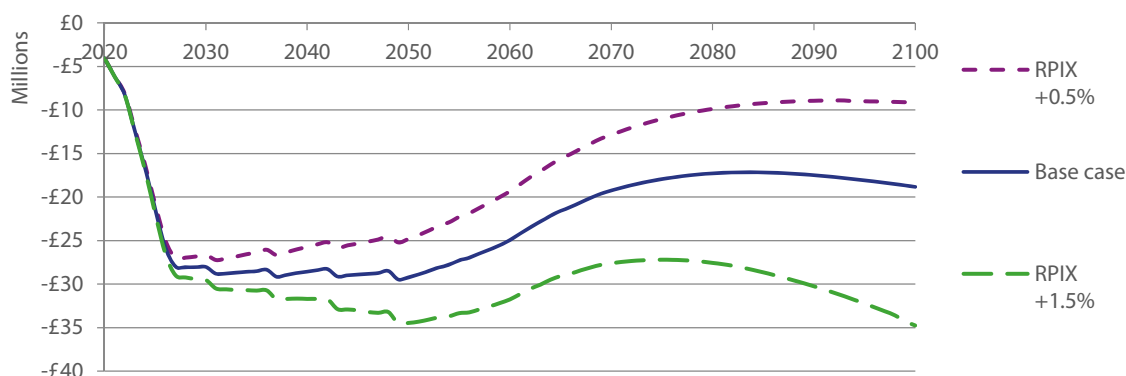


The base case assumed that a 1% change in income would lead to a 0.8% change in consumption. If individuals adjusted their spending so that it was 100% responsive to changes in income (i.e. the MPC was 1.0), then the impact in consumption would amount to a reduction of annual consumption of approximately £32 million in the short-term.⁶⁰ Conversely, a MPC of 0.6 would have a smaller impact on consumption, and the reduction of annual consumption would be approximately £20 million.

⁵⁹ Van de Coevering et al. (2006). Estimating economic and social welfare impacts of pension reform. DWP Pensions Technical Working Paper.

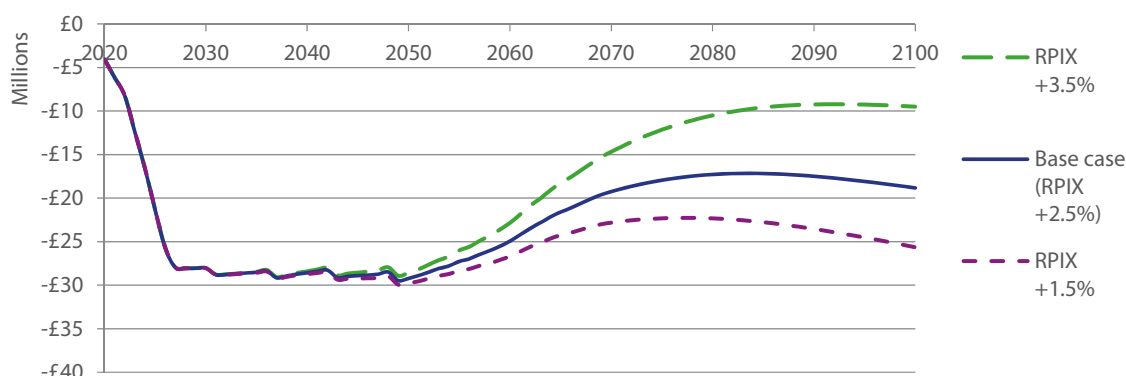
⁶⁰ With an MPC of 1.0, the change in income, and therefore the change consumption is approximately 80% of the individual pension contributions (sum of employed, self-employed and non-employed contributions in Figure 93). The remaining 20% is the total amount that individuals saved in income tax.

Figure 94. Marginal impact on annual consumption: sensitivity to the assumption on real earnings growth



As the impact of Secondary Pension Scheme was sensitive to real earnings growth, we also consider how this would impact on annual consumption. As Figure 94 shows, the real earnings growth will impact on consumption in the long-term.

Figure 95. Marginal impact on annual consumption: sensitivity to investment return



As the impact of the Secondary Pension Scheme was sensitive to the investment return, we also consider how this would impact on annual consumption. As Figure 95 shows, the investment return impacts on consumption in the long-term.

8.3 Impact on the Labour Market

In Section 6 we described how the Secondary Pension Scheme is expected to impact on employers. We now build on these findings and consider the likely implications on the labour market.

The Secondary Pension Scheme is unlikely to impact on labour participation rates since individuals who were concerned that paying into a secondary pension would reduce their take-home pay can choose to opt out. The policy is also unlikely to impact on the ability of Guernsey and Alderney to attract migrant workers.

The Secondary Pension Scheme will, however, impact on wages and employment. The pension contributions firms are required to make increase their payroll. Firms may look to recover some additional costs using one or more of the following strategies. Otherwise, the Secondary Pension Scheme will impact on company profits and dividends.

- Increase consumer prices
- Increase productivity
- Reduce the number of hours worked or overtime available
- Reduce the number of people employed, freeze recruitment or make redundancies
- Defer or reduce future pay rewards and bonuses
- Cut costs in other areas

The extent to which employers are able to deploy these strategies depends on the extent to which their goods and services can be substituted by imports, and the extent to which local firms need to offer attractive remuneration package to recruit and retain staff.

Firms that primarily sell their goods and services to the local market, and cannot be easily substituted by imported products, will be better able to recover some of the additional costs through increased consumer prices. For example, some local retailers may be able to increase the price of their goods without incurring a large reduction in demand and preserve their profitability. However, other firms who face competition from international firms, or from online providers, would be unlikely to find this an effective strategy. The ability of firms to pass on costs to the consumers is also likely to be impeded by the lower levels of disposable income in the short- to medium-term.

Some firms may look to increase productivity. This would be particularly effective if labour can be replaced by capital, such as new technology. However, this is likely to be challenging to achieve and evidence from the UK shows persistently low levels of productivity growth.⁶¹

Strategies that target the wage bill are likely to be more effective. It is expected that firms would look to offset their pension contributions by limiting pay awards and bonuses. This means we can expect lower wage growth during the implementation period; median earnings may even fall in real terms. Having said that, given the limited labour supply and low unemployment rates, firms that want to recruit and retain high quality staff will need to offer an attractive remuneration package. Thus, while firms may want to adjust their wage bill through lower salary increases, there will also be some limits on their ability to do so.

Another strategy for reducing the wage bill is to reduce the number of hours worked, or people employed. For instance, there may be fewer opportunities for earn overtime, or a freeze on additional recruitment. Firms

⁶¹ Office for National Statistics. (2017). Labour productivity: April to June 2017. Statistical Bulletin

could also change the composition of their workforce. This could involve making more use of workers who would not be automatically enrolled, such as using part-time workers whose annual earnings would fall below the lower earnings limit, or employing staff who are over the States pension age. It is also possible that some firms may seek to limit their wage bill by using self-employed contractors, or encouraging workers into the informal sector.

Finally, there is also the possibility that some firms will incur redundancies or be forced to close because they cannot afford the higher wage bill. In practice, this seems less likely as the employer contribution rate is increased gradually over seven years; this should allow firms the opportunity to look for cost savings in other areas. Overall, we would not expect significant increases in unemployment rates following the introduction of the Secondary Pension Scheme. In the UK, unemployment rates have fallen in the period since the introduction of Workplace Pensions, and this implies that automatic enrolment has a relative small influence on labour market when compared to other factors.

8.4 Impact on Economic Growth

In considering the impact of the Secondary Pension Scheme on Gross Domestic Product (GDP) and economic growth we bring together the range of effects that have been previously discussed along with impact on trade, investment and international competitiveness.

Consumption is the largest single contributor to GDP. As explained earlier, consumption is likely to be reduced particularly in the short-term, as more individuals contribute to a secondary pension and working age individuals will incur a reduction in their net income. Over time, the impact on consumption will reduce as individuals benefit from additional pension income in retirement, and are expected to have higher levels of consumer spending. In the very long-term, the marginal impact of the Secondary Pension Scheme is sensitive to the assumptions on the marginal propensity to consume, real earnings growth and the investment return.

Public sector spending contributes to GDP. In the short- to medium-term the States will see an annual reduction in government revenue, which is expected to be around £10 million in the short- to medium-term. There is also expected to be some additional spending on income support in this period. The impact on economic growth will depend on how the States looks to fund the shortfall in the government budget. Reductions in government spending may reduce the level of economic output. However, the cost of the Secondary Pension Scheme will be small relative to the projected increases in revenue that result from the real earnings growth of 1% per annum.

Investment and international trade can also contribute to GDP. Local firms will face additional costs as they will be required to contribute to the Secondary Pension Scheme. This is likely to limit the scope for local investment. It is possible the Secondary Pension Scheme could act as a disincentive for inward investment or adversely impact on international trade as firms operating in Guernsey and Alderney would incur higher employment costs than they would have done before. However, in practice, the effect is likely to be minimal. Financial services are the largest economic sector, and a major source of exports. Many firms in this sector already offer occupational pensions, which means the impact of the policy will be limited. Moreover, investment decisions would be expected to take into account a wide range of factors, such as the tax regime and the regulatory environment.

In the long-term, the marginal cost of the Secondary Pension Scheme is likely to be small given the States' assumption on real earnings growth, which will be associated with higher levels of economic growth. In the short-term the Secondary Pension Scheme will put pressure on economic growth, primarily reflecting the reduction in disposable income and consumer spending. The magnitude of the impact is likely to be relatively limited, and the risks will be small compared to other economic challenges, such as the impact of Brexit.

Finally, some may argue wider economic uncertainties may bring into question the merits of the Secondary Pension Scheme or the timing for its implementation. However, it may be worth noting that the case for pension reform in the UK was advanced at a time of economic and fiscal austerity. Research commissioned by the UK Department for Work and Pensions assessed whether it remained appropriate to promote private retirement saving in the wake of the 2008-09 global financial crisis.⁶² It was concluded that although the recession may reduce people's willingness to save in pensions, and there may be preferences for savings vehicles that offered greater liquidity, on balance, the workplace pension reforms remained appropriate despite the economic downturn.

⁶² Department for Work and Pensions (2010). Workplace pension reform regulations. Impact assessment.

9. Conclusions

This report sets out the results of the actuarial modelling of the projected growth in the States-facilitated Secondary Pension Scheme. The central results have been generated from a “base case” set of assumptions. In addition we have illustrated the sensitivity of the projections to changes in the assumptions. The assumptions used were derived in conjunction with the Committee for Employment & Social Security. The results shown in this report are projections and do not necessarily reflect what will happen in practice. The sensitivities considered do not necessarily represent the extremes of the outcomes. However, they are useful in quantifying the relative effect of different assumptions.

The economic impact assessment illustrates how the introduction of the Secondary Pension Scheme could potentially have implications for individuals and households, employers, the government, and on the economy. The economic projections are also estimated using the base case assumptions, and sensitivity analyses have been undertaken.

In the long-term, the introduction of a Secondary Pension Scheme is expected to cumulate in an increase in economic activity among pensioners by increasing the income of households in retirement. It will also enable people to distribute their income more evenly across their lifespan. However, to achieve this increase in the savings rate, there would be a loss of disposable income among the working age population, with reductions in income tax revenue, aggregate consumption and a possible suppression of economic growth. These effects would be due to part of the disposable income of households being diverted into long-term saving which will defer some consumption.

10. Useful References

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11. Appendix: Derivation of Assumptions

This appendix sets out the derivation of the base case assumptions which have been agreed with the Committee for Employment & Social Security.

11.1 Employee opt out rate

11.1.1 Key Assumption

The opt out rate assumption is one of the principal assumptions; the outcome of the Secondary Pension Scheme projections and analysis will be highly sensitive to this assumption. In order to consider the central assumption in a Guernsey context, it is helpful to consider the data that has been published so far on the opt out rates experienced in the UK.

11.1.2 UK Experience

The UK has been phasing in auto-enrolment since 2012, starting with the largest employers (120,000 or more employees) first. The phasing in process has been spread over around 5 years, and so it was not until 2015 that employers with fewer than 30 employees began to introduce auto enrolment.

Prior to the introduction of auto enrolment in the UK, opt out rates had been estimated. At that time it was anticipated that the opt out rate could be in the range 15%-30%. However, it transpired that the actual opt out rates observed initially were lower than expected, at around 10% amongst employees of the largest employers.

There is some evidence that the opt out rate has increased as smaller employers introduce auto enrolment. In particular, data from the Employers' Pension Provision Survey 2015⁶³ indicates that employers with between 1 and 19 employees experienced a much higher opt out rate of 17%, compared to an average across all employers of 9%. Data for 2016 does not appear to have yet been published at the time of preparing this paper.

11.1.3 Guernsey-specific considerations

How the opt out rate may change in future in the UK is unknown. However, we would expect the long-term opt out rate in the UK to increase as the employees' contribution rate increases to 5%.

The average opt out rate in Guernsey may be higher than that experienced in the UK for a number of reasons:

- Most Guernsey employers would be considered "small" in UK terms
- Guernsey's employees' proposed long-term contribution rate under the Secondary Pension Scheme is 6.5%, compared to 5% in the UK
- The minimum age of auto enrolment in the UK is 22, compared with 16 proposed for the Secondary Pension Scheme

11.1.4 Assumption

Considering the UK evidence so far for small employers, and the higher long-term contribution rate in the Secondary Pension Scheme, we would expect that a long-term realistic opt out rate could be around 20%. However, we recognise that this assumption is difficult to predict accurately and therefore we have illustrated sensitivity of the output to this assumption.

⁶³ Department of Work and Pensions (2016). Employers' pension provision survey 2015. (www.gov.uk/government/publications/employers-pension-provision-survey-2015)

11.2 Membership of existing occupational pension schemes

11.2.1 Key Assumption

The percentage of employees who are existing active members of an occupational pension is an important assumption for estimating the economic impact of the Secondary Pension Scheme.

The number of individuals who join an occupational pension scheme as a result of the Secondary Pension Scheme is estimated to be the number of individuals who would become eligible, less the number of employees who are existing members of an occupational pension scheme.

11.2.2 Evidence

We have estimated this percentage using income tax data on contributions to occupational pension schemes and on an assumption about the percentage of occupational schemes that are non-contributory.

Anonymised individual level data from the Electronic Census for 2014 were provided containing Income Tax and Social Security records. Raw data were cleaned following the steps set out in the Guernsey Household Income Report and advice from the States Data and Analysis Unit. The cleaned dataset contained 58,010 records, of whom 28,253 were individuals of working age and who were classified as employed. Complete tax records were available for 23,444 working age employees and showed that 28% of working age employees contributed to an occupational pension.

Contribution rates to an occupational pension vary by employment sector. According to income tax records, 85% of individuals in public administration⁶⁴ pay into an occupational pension. The percentage is also relatively high for those working in energy and communications.⁶⁵ It is estimated that 18% of all employees have access to the public sector pension scheme.

The remaining 82% of employees work in the private sector. Income tax records showed that 16% of private sector employees pay into an occupational pension. This could be an underestimate, as the 2012 Pensions Survey found that approximately 20% of occupational pension schemes in the private sector were non-contributory schemes.⁶⁶ Based on the assumption that 20% of occupational pension schemes were non-contributory for the employees, then it can be inferred that 20% of individuals working in the private sector are active members of an occupational pension scheme.⁶⁷

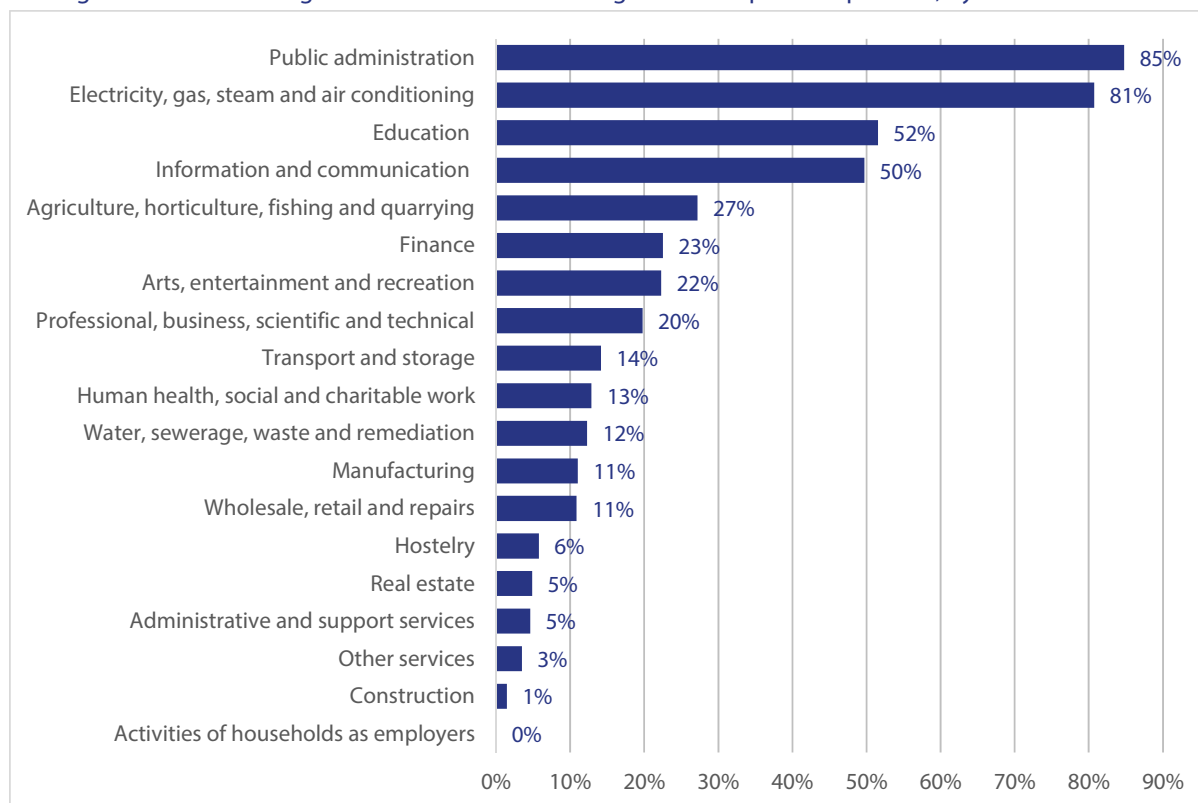
⁶⁴ Including medical and teaching staff who are employed by the States of Guernsey.

⁶⁵ Includes employees of Guernsey Electricity and Guernsey Post who also have access to the public sector scheme Billet d'Etat

⁶⁶ States of Guernsey Policy Council, Pensions survey 2012.

⁶⁷ This is lower than was reported in the 2012 Pensions Survey, which surveyed residents working in the private sector and found 27% of respondents were in active occupational pension scheme members and 45% of respondents were actively saving in a private sector pension scheme.

Figure 96. Percentage of individuals contributing to an occupational pension, by economic sector



Note: Used E-Census data from 23,444 individuals who are of working age and have SI classified as employed for whom the employment sector and whether they paid into an occupational pension was known. Uses first employment category if work in more than one industry.

Combining evidence from the employment data and assumptions about membership of occupational pension schemes in the public and private sector, it is estimated that, on average, 32% of all working age employees are existing active members of an occupational pension scheme. This is based on the following calculation:

% of employees who are existing active members = $(18\% \times 85\%) + (82\% \times (16\% + X\%))$.

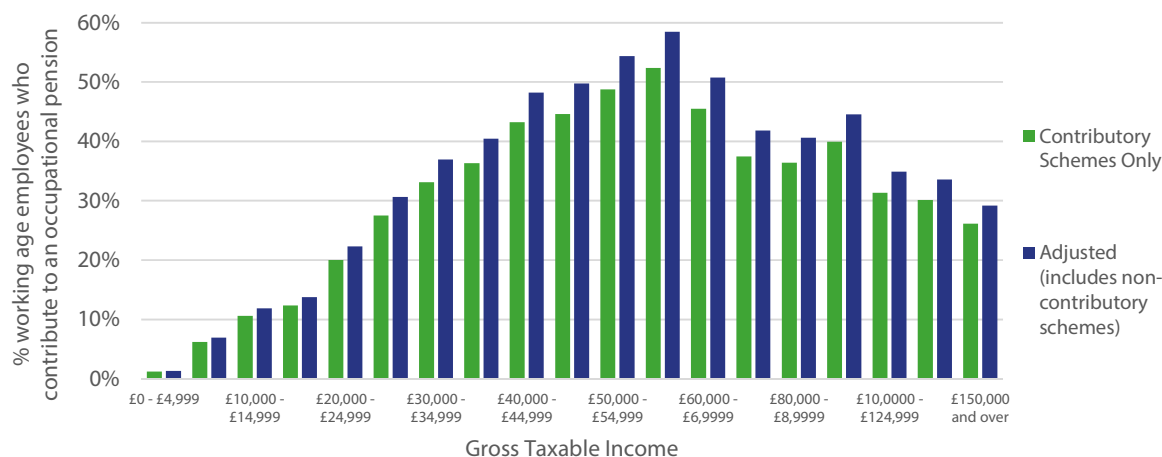
Where:

- 18% of employees work in the public sector. 85% of these employees have an occupational pension.
- 82% of employees work in the private sector. 16% of these employees are an active member of a contributory scheme and the % of whom are an active member of a non-contributory scheme is unknown (X).
- X can be inferred if we assume that 20% of all private sector occupational pensions are non-contributory (as reported in the 2012 Pensions Survey). If the 16% of private sector who are active members of contributory scheme represent 80% of all private sector occupational pensions, then there must be a further 4% of private sector employees who are active members of a non-contributory schemes.

Furthermore, the economic model assumes existing membership of occupational pension scheme depends on an individual's gross taxable income. Figure 97 shows the percentage of working age employees who are existing active members of an occupational pension by gross taxable income band.

Income tax records show that membership of occupational pension schemes is associated with gross taxable income, and those with a higher gross taxable income are more likely to contribute to an occupational pension. To allow for non-contributory schemes an adjustment has been made in which the percentage of employees who are active members in each income band has been increased by 1.142 (i.e. 32% / 28%).⁶⁸

Figure 97. Percentage of working age employees who pay into an occupational pension



Source: E-Census data containing income tax records from 2014.

⁶⁸ Where 32% is the estimated % of employees who are active member of any (contributory and non-contributory) occupational pension scheme and 28% is the % of individuals who are active members of contributory occupational pension scheme. No data are available on the relationship between membership in a non-contributory scheme and gross taxable income, so we apply the simplifying assumption that the distribution of non-contributory schemes by income band is the same as the distribution of contributory scheme by income band.

11.2.3 Assumption

The assumption of the percentage of employees who contribute to an occupational pension in each gross taxable income band is shown Table 10.

Table 10. Percentage of employees who are active members of an occupational pension

Gross Taxable Income	Base Case	Base Case scaled down by 10%	Base Case scaled up by 10%
£0 - £4,999	1%	1%	1%
£5,000 - £9,999	7%	6%	8%
£10,000 - £14,999	12%	11%	13%
£15,000 - £19,999	14%	12%	15%
£20,000 - £24,999	22%	20%	25%
£25,000 - £29,999	31%	28%	34%
£30,000 - £34,999	37%	33%	41%
£35,000 - £39,999	40%	36%	45%
£40,000 - £44,999	48%	43%	53%
£45,000 - £49,999	50%	45%	55%
£50,000 - £54,999	54%	49%	60%
£55,000 - £59,999	58%	53%	64%
£60,000 - £69,999	51%	46%	56%
£70,000 - £79,999	42%	38%	46%
£80,000 - £89,999	41%	37%	45%
£90,000 - £99,999	45%	40%	49%
£100,000 - £124,999	35%	31%	38%
£125,000 - £149,999	34%	30%	37%
£150,000 and over	29%	26%	32%
All incomes	32%	28%	35%

11.3 Employers offering an occupational pension

11.3.1 Key Assumption

The percentage of employers who currently offer an occupational pension is an important assumption for estimating the economic impact of the Secondary Pension Scheme.

11.3.2 Evidence

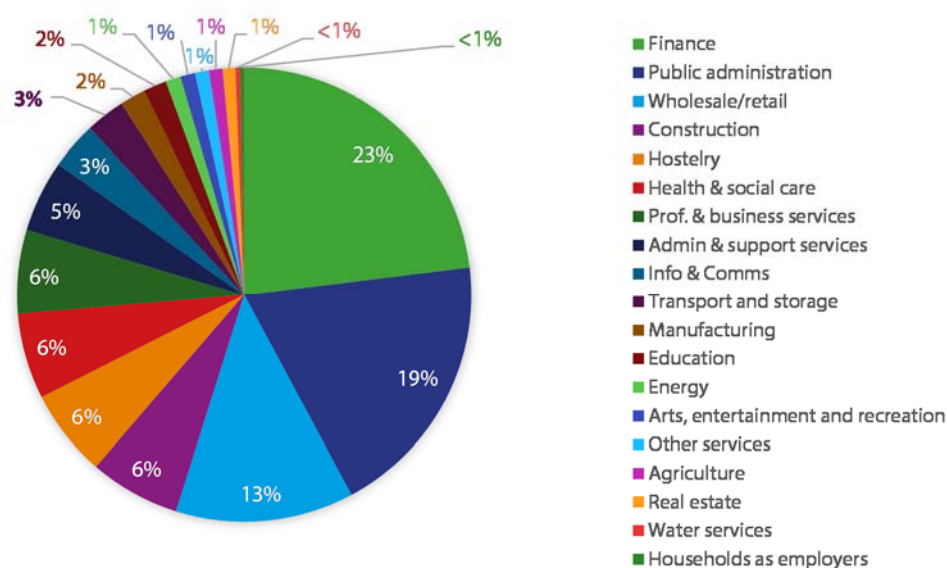
There do not appear to be any reliable data on the percentage of employers who currently offer an occupational pension. Income tax records showed that the percentage of employees who contributed to an occupational pension varies considerably by economic sector. However, the available data do not show how this varies by employer size. The policy documents cite a BWCI survey from 2010, but no general assumptions can be made, as the respondents were predominately employers in the finance sector.

The economic model requires an assumption that the percentage of employers who currently offer an occupational pension varies by sector and size. The assumption is based on an extrapolation of employment data. Income tax data were used to validate the assumptions.

11.3.3 Approach

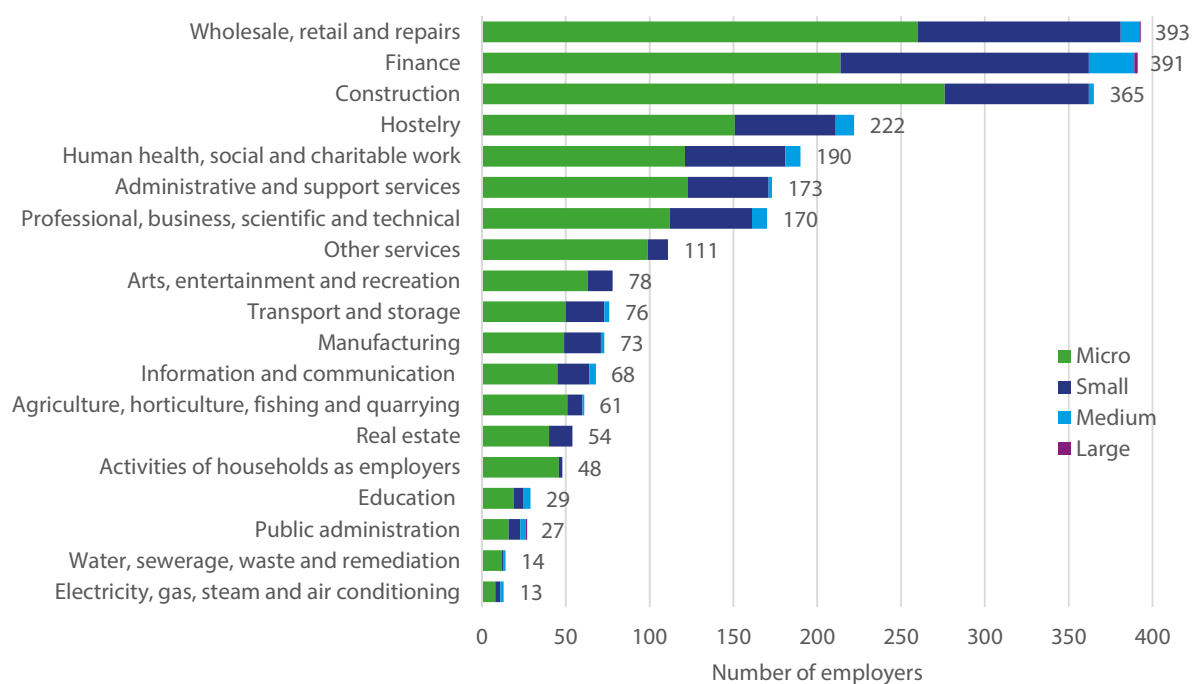
The first step was to estimate the number of employees per economic sector and employer size. The number of employees by sector is available; the number of employers by sector and size is known (Figure 98 and Figure 99).

Figure 98. Distribution of employees by economic sector



Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017; States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

Figure 99. Number of employer, by size and economic sector



Source: States of Guernsey (2017). Guernsey Quarterly Population, Employment and Earnings Bulletin. Issue Date 4 August 2017; States of Alderney (2017). Alderney Electronic Census Report 31 March 2016. Population snapshots and trends. Issued on 21 April 2017.

The number of employees per sector and size was estimated by selecting median values for employer size category (Table 11).

Table 11. Estimated number of employers by employer size and sector

	Estimated Number of Employers per Size										Number of employees
	1	2 to 5	6 to 10	11 to 25	26 to 50	51 to 100	101 to 250	251 to 1000	Over 1000	Total	
Agriculture, horticulture, fishing and quarrying	21	105	56	15	35	65	0	0	0	297	282
Manufacturing	22	95	72	180	35	130	0	0	0	534	534
Electricity, gas, steam and air conditioning	5	11	16	0	35	65	150	0	0	282	316
Water, sewerage, waste and remediation	5	25	0	15	0	65	0	0	0	110	100
Construction	131	508	376	510	175	65	300	0	0	2065	1,892
Wholesale, retail and repairs	102	553	536	510	700	455	600	300	0	3756	3,724
Hostelry	71	280	248	360	175	715	0	0	0	1849	1,823
Transport and storage	28	77	80	135	140	130	150	0	0	740	821
Information and communication	25	70	56	120	140	130	300	0	0	841	986
Finance	110	364	424	900	1,225	910	1,950	600	0	6483	6,758
Real estate	22	63	40	120	35	0	0	0	0	280	263
Professional, business, scientific and technical	59	186	184	315	175	260	750	0	0	1929	1,763
Administrative and support services	60	221	144	225	525	0	300	0	0	1475	1,496
Public administration	7	32	8	75	35	0	450	0	5,000	5607	5,612
Education	10	32	8	60	35	195	150	0	0	490	484
Human health, social and charitable work	57	224	272	225	385	520	150	0	0	1833	1,797
Arts, entertainment and recreation	33	105	56	105	35	0	0	0	0	334	306
Other services	62	130	88	0	35	0	0	0	0	315	294
Activities of households as employers	32	49	16	0	0	0	0	0	0	97	84
TOTAL	862	3,126	2,680	3,870	3,920	3,705	5,250	900	5,000	29,313	29,335

The next step was to select assumptions for the percentage of employers that offer an occupational pension scheme that are plausible given income tax data. The expected percentage of employees with an occupational pension by sector are similar to the income tax data, with the exception of Finance, which is intentionally higher to reflect the prevalence of non-contributory schemes in the finance sector.⁶⁹

⁶⁹ States of Guernsey Policy Council, Pensions Survey 2012.

11.3.4 Assumption

The following assumptions have been used to model the percentage of employers who currently offer an occupational pension, by sector and employer size.

Table 12. Assumption on percentage of employers who currently offer an occupational pension

Employer Size	Micro		Small			Medium		Large	
Number of employees	1	2 to 5	6 to 10	11 to 25	26 to 50	51 to 100	101 to 250	251 to 1000	Over 1000
Public administration	100%	100%	100%	100%	100%	.	100%	.	100%
Electricity, gas, steam and air conditioning	0%	0%	20%	30%	30%	100%	100%	.	.
Information and communication	0%	0%	20%	30%	30%	100%	100%	.	.
Agriculture, horticulture, fishing and quarrying	0%	0%	20%	30%	30%	100%	.	.	.
Arts, entertainment and recreation	0%	0%	20%	30%	30%	.	.	.	.
Finance	0%	0%	20%	30%	30%	50%	75%	100%	.
Education	0%	0%	20%	30%	30%	50%	75%	.	.
Human health, social and charitable work	0%	0%	10%	20%	20%	30%	30%	.	.
Transport and storage	0%	0%	10%	20%	20%	30%	30%	.	.
Professional, business, scientific and technical	0%	0%	10%	20%	20%	30%	30%	.	.
Manufacturing	0%	0%	10%	20%	20%	30%	.	.	.
Administrative and support services	0%	0%	0%	10%	10%	.	20%	.	.
Real estate	0%	0%	0%	10%	10%	.	.	.	.
Water, sewerage, waste and remediation	0%	0%	.	10%	.	20%	.	.	.
Wholesale, retail and repairs	0%	0%	0%	0%	0%	20%	20%	100%	.
Construction	0%	0%	0%	0%	0%	20%	20%	.	.
Hostelry	0%	0%	0%	0%	0%	20%	.	.	.
Other services	0%	0%	0%	.	0%	.	.	.	.
Activities of households as employers	0%	0%	0%	.	.	.	.	.	.

Note: "." where there are no employers in Guernsey and Alderney of that sector and size.

11.4 Expected rate of return on Secondary Pension Scheme contributions

11.4.1 Key Assumption

The investment return assumption models the expected rate of return on the contributions invested in the States-facilitated Secondary Pension Scheme. This is a key assumption which will affect the size and expected rate of increase in the Secondary Pension Scheme funds. In addition, it will affect the size of each individual's pension account and so ultimately their retirement income from the Secondary Pension Scheme.

11.4.2 Investment Expenses

The assumption is net of any investment management expenses or charges, to eliminate the need for an explicit allowance for expenses.

11.4.3 Investment Strategy

While the actual rate of return achieved each year will fluctuate with market conditions, a key driver for the expected investment returns will be the long-term strategy adopted. While this strategy is not known at this stage, the February 2016 Billet states that *"the Secondary Pensions Scheme would be required to offer a range of investment choices, including an option to invest in a fund mirroring the investment strategy of some of the capital funds currently administered by the States."*

There are three main States investment funds as follows:

Fund	Target Investment Objective
Long-term Fund	UK RPI +4%
Medium-term Fund & Cash Pool	UK RPI + 3.5%
Common Investment Fund	Guernsey RPIX + 3.5%

These are aspirational target returns and it would be more prudent to assume a slightly lower long-term average rate of return for projection purposes. The initial projections included within the February 2016 Billet, to illustrate possible benefit levels provided by the Secondary Pension Scheme, assumed a real rate of return of 3% pa (i.e. 3% pa in excess of price inflation). These initial projections also assumed an annual management charge on funds under management of 0.5% pa. Combining these two assumptions leads to an assumption of 2.5% pa in excess of inflation.

11.4.4 Lifestyle Strategy

It has been assumed that, over the 10 years prior to retirement, there would be a gradual reduction in the level of return-seeking assets in an individual member's pension account, in order to move to a more matched position for purchasing an annuity at retirement.

11.4.5 Assumptions

In view of the target investment return on the Common Investment Fund and the assumption made in the February 2016 Billet, a central investment return of RPIX + 2.5% pa has been used, reducing to RPIX over the 10 year period prior to retirement. We illustrate the sensitivity of the output to this assumption.

11.5 Administrative costs for employers

11.5.1 Key Assumption

Employers will be legally required to automatically enrol eligible employees into a Secondary Pension Scheme. As well as the costs to employers arising from the pension contributions they will be required to make, employers are also expected to incur some administrative costs. These costs will predominately be additional HR and payroll costs. However, some employers may also seek professional advice on how best to comply with the requirements in their particular circumstances.

11.5.2 UK Evidence

An impact assessment was undertaken prior to the launch of the UK workplace pension.⁷⁰ This assumed that the administrative cost would depend on firm size, and they reported both the cost per firm and the equivalent cost per employee. The projected costs are shown Table 13 and expressed in GBP at 2009/10 prices.

Table 13. Assumptions on administrative cost of participation in UK workplace pension, by firm size

Firm Size		Cost per firm		Equivalent cost per employee	
		Cost in First Year of Scheme	Ongoing cost in future years	Cost in First Year of Scheme	Ongoing cost in future years
Micro	1-4 employees	200	100	£130	£50
Small	5-49 employees	400	100	£50	£15
Medium	50-249 employees	1,800	400	£30	£6
Large	250 employees	12,000	1,900	£20	£3

There is also UK evidence from employers on the costs incurred to implement a workplace pension. A 2015 survey of employers showed the median implementation cost varied by firm size.⁷¹ As expected, the reported costs were higher if they sought independent advice. Several employers reported they had incurred no costs. The results are presented in Table 14.

Table 14. Median implementation costs reported by Staged Employers in UK in 2015

Firm size	Cost per firm	Equivalent cost per employee
1-19 employees	£200	£25
20-49 employees	£1,000	£30
50-99 employees	£1,000	£16
100-249 employees	£2,500	£16
250-499 employees	£5,000	£13
500-999 employees	£5,000	£6
1000+ employees*	£20,000	£8

* There are no private sector employers in Guernsey and Alderney with more than 1000 employees.

11.5.3 Assumption

It is assumed that employers will incur a fixed cost of £500 per employer in the first year and £200 in subsequent years, together with a variable cost of £25 per employee in the first year and £10 per employee in subsequent years. In the first year the fixed component reflects the time and/or advice required to understand their responsibilities under the Secondary Pension Scheme and make system-wide changes to human resource or payroll systems. In subsequent years the fixed costs reflects the time and/or advice required to

⁷⁰ Department for Work and Pensions. Workplace Pension Reform Regulations Impact Assessment, 2010.

⁷¹ Department for Work and Pensions. Employers' Pension Provision Survey 2015. Published 2016.

monitor policy changes (such as increases to the contribution rate). The variable cost reflects the staff time required to enrol each employee.

These assumptions are conservative compared to the UK evidence, which are shown in Table 15. Sensitivity analysis is undertaken in which these costs are varied by $\pm 50\%$.

Table 15. Assumption on administrative cost per firm and per employee

Firm Size	Number of firms in Guernsey	Cost per firm		Equivalent cost per employee*	
		2020	2021 onwards	2020	2021 onwards
1	810	£525	£210	£525	£210
2 to 5	858	£588	£235	£168	£67
6 to 10	328	£700	£280	£88	£35
11 to 25	251	£875	£350	£58	£23
26 to 50	109	£1,375	£550	£39	£16
51 to 100	56	£2,125	£850	£33	£13
101 to 250	34	£4,250	£1,700	£28	£11
251 to 1000	3	£8,000	£3,200	£27	£11

* assumes mid-point values for each range of 1, 3.5, 8, 15, 35, 65, 150, and 300 respectively