
STATES OF JERSEY



GOVERNMENT ACTUARY'S REPORT ON THE FINANCIAL CONDITION OF THE SOCIAL SECURITY FUND AS AT 31 DECEMBER 2017

Presented to the States on 25th March 2019
by the Minister for Social Security

STATES GREFFE



Government Actuary's Department

**Report by the Government Actuary on the financial condition
of the Social Security Fund as at 31 December 2017**

Date: 6 March 2019

Author: Martin Clarke



SOCIAL SECURITY (JERSEY) LAW 1974

Report by the Government Actuary on the financial condition of the Social Security Fund as
at 31 December 2017

To the Minister for Social Security of the States of Jersey

Article 32 of the Social Security (Jersey) Law, 1974 requires an actuary to review the operation of the Law in advance of the commencement of each medium term financial plan, or more frequently as the Minister shall direct. The previous review was as at 31 December 2015 and, at the request of the Minister, I have carried out a review as at 31 December 2017. I now submit the following report on the financial condition of the Social Security Fund and on the adequacy of the present contribution rates.

Martin Clarke FIA
Government Actuary
6 March 2019



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1 Executive summary and conclusions

- 1.1 The Social Security Fund (SSF) of the States of Jersey is primarily designed to provide benefits in old age, and on death and incapacity to those who have paid the required contributions. The SSF is financed by a combination of social security contributions from individuals and employers and a States grant.
- 1.2 Article 32 of the Social Security (Jersey) Law 1974 (“the Law”) requires the Minister to appoint an actuary to carry out a review of the SSF two years in advance of the commencement of each medium term financial plan, or more frequently as the Minister shall direct. As requested, this review has been carried out as at 31 December 2017, and it includes projections over the period from 2017 to 2077. The previous review was made as at 31 December 2015.
- 1.3 This review:
- > considers the financial position of the SSF taking into account changes in legislation and experience since the previous review
 - > projects possible future levels of expenditure from the SSF and the contribution rates required to finance this expenditure
 - > projects the combined balance in the Social Security Fund and the Social Security (Reserve) Fund, which is available to meet social security benefit payments and help smooth any increase in the required rate of social security contributions
- 1.4 Two main sets of results are presented in this report:
- > the projected “break-even” contribution rates; this is the rate that would be required in order for contribution income to equal expenditure on benefits and administration costs, ignoring any balance built up in the two funds and the investment return earned thereon;
 - > the combined balances in the Social Security and Social Security (Reserve) Funds (together “the Fund”), as a multiple of annual expenditure, assuming that the current rates of contribution remain unchanged
- 1.5 Although this report presents projections of the break-even contribution rates, these are not necessarily the rates that need to be paid to the Fund. In practice, the required rate of contributions will depend on the financing strategy that is adopted, and in particular how any assets (and the investment return they generate) should be used to finance Fund expenditure. As mentioned in paragraph 1.26, we recommend that the financing strategy should be considered as part of the States’ ongoing social security review – “Living Longer Thinking Ahead”.
- 1.6 Details of the data and assumptions underlying the results are included in the Appendices to this report. The assumptions include that:
- > the size of the population will follow the projections prepared by the Jersey Statistics Unit assuming net immigration of 325, 700 or 1,000 people each year



- > the future rate of return on investments, net of associated expenses, will be 2% a year in excess of earnings increases
- > earnings limits for contributions and benefit rates will increase in line with general earnings growth, except that allowance has been made for the impact of the indexation of the old age pension now being subject to a minimum of the increase in the RPI (pensioner) index
- > in line with current legislation, the States' Grant will revert to the formula described in paragraph B.26 (in Appendix B) from 2020

1.7 A summary of the results of the review based on the "central assumptions" is shown in the following table and charts.



Table 1.1: Estimates of the break-even contribution rates¹, expenditure from the Social Security Fund and the balance in the Fund based on the central assumptions and expressed in constant 2017 earnings terms

Year	Break-even rate (% of earnings)	Expenditure (£m)	Fund balance at year end (£m)	Average balance over year expressed as a multiple of annual expenditure
<i>Net immigration of 325 people a year</i>				
2017	9.9%	230	1,852	7.6
2022	10.4%	249	2,069	8.2
2027	11.4%	275	2,221	8.0
2037	14.2%	344	2,069	6.1
2047	14.5%	354	1,449	4.2
2057	13.8%	340	766	2.3
2067	13.2%	328	129	0.5
2077	13.1%	331	-	-
<i>Net immigration of 700 people a year</i>				
2017	9.9%	230	1,852	7.6
2022	10.2%	250	2,089	8.3
2027	11.0%	277	2,291	8.2
2037	13.0%	348	2,344	6.8
2047	12.9%	363	2,088	5.8
2057	12.0%	357	1,936	5.4
2067	11.5%	358	1,969	5.5
2077	11.5%	377	2,082	5.5
<i>Net immigration of 1,000 people a year</i>				
2017	9.9%	230	1,852	7.6
2022	10.0%	251	2,105	8.3
2027	10.6%	278	2,346	8.4
2037	12.2%	351	2,564	7.3
2047	11.8%	369	2,600	7.0
2057	10.9%	370	2,872	7.7
2067	10.5%	382	3,440	8.9
2077	10.6%	414	4,191	10.0

¹ In comparison with the current total contribution rate of 10.5% applied to earnings up to the Standard Earnings Limit (SEL).



Figure 1.1: Projected break-even contribution rates based on the central assumptions

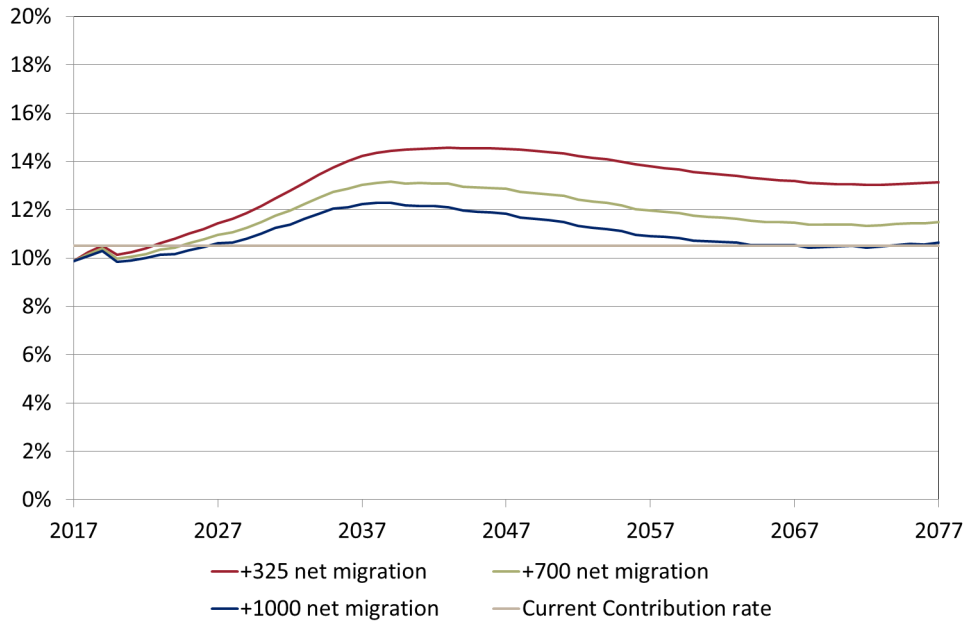
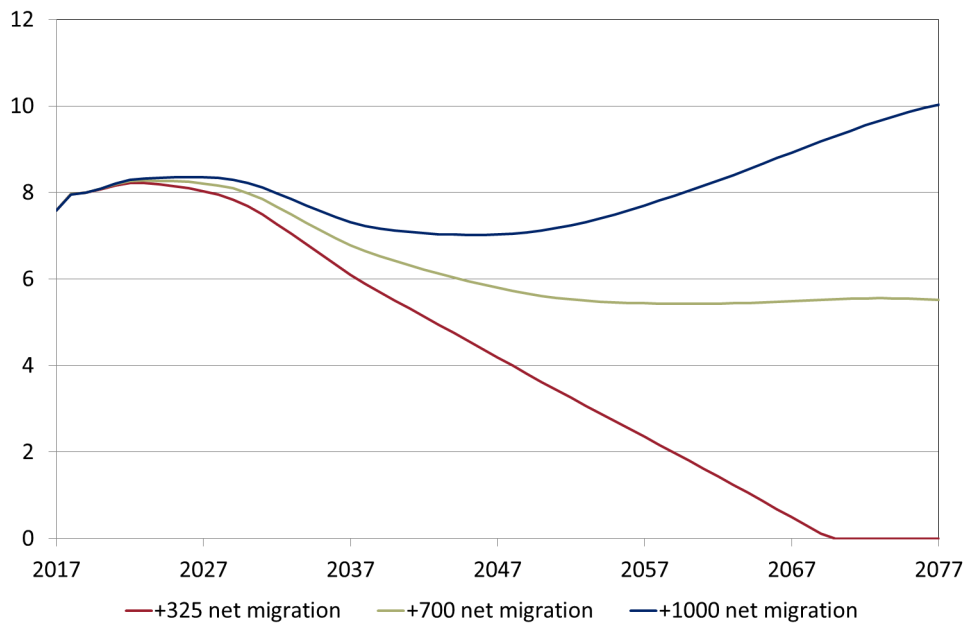


Figure 1.2: Projected Fund balance expressed as a multiple of annual expenditure based on the central assumptions assuming the current contribution rates are maintained





Break-even contribution rate

- 1.8 For each migration scenario, the break-even contribution rate is projected to start off below the current rate of 10.5% but then to rise quickly above this, reaching a peak by around 2040. This peak ranges from 12.3% under the assumption of 1,000 a year net inward migration to 14.5% assuming 325 a year net inward migration.
- 1.9 Thereafter, the projected contribution rate declines gradually before rising slightly in the final years of the projection.
- 1.10 The main driver of the projected increase in the break-even contribution rates over time is the ageing of the population, resulting in a decrease in the number of contributors relative to those of pensionable age. For example, the number of people of working age for each person over pension age (excluding overseas pensioners) is projected to reduce from just under 4 in 2017 to about 2.8 around halfway through the projection period on the net inward migration assumption of 700 people each year. The extent of this ageing of the profile, and its impact on the break-even contribution rate, are very dependent on the assumed level of migration.

Fund balance

- 1.11 The progress of the combined Fund balance, assuming current rates of contribution are maintained, is also highly dependent on the assumed level of migration, as shown in Figure 1.2.
- 1.12 On the assumption of 325 a year net immigration, the balance is projected to be extinguished during 2070 and at that point the contribution rate would need to rise to the break-even rate, or additional funding would be required, in order to meet expenditure. In practice, to the extent that part of the Fund balance is not readily convertible into cash (for example, some property investments) and to maintain a working cash balance, it would be necessary to increase the contribution rate or take alternative action before the balance is fully extinguished.
- 1.13 In contrast, under the assumption of higher net inward migration, the Fund balance is not projected to be extinguished during the projection period up to 2077.

Comparison with 2015 review

- 1.14 Overall, the break-even contribution rates indicated by the review are similar to those shown by the 2015 review, although the rates at the 2017 review are slightly lower in the early years and final years of the projection period, and slightly higher in the intervening years. This is primarily due to changes in expected expenditure on old age pension.



1.15 There is a more marked difference in the projected Fund balances, with the 2017 review indicating significantly higher balances than the 2015 review. For example, under the net +700 a year migration scenario, the Fund balance is projected to stand at about 5.5 times annual expenditure in 2077, compared with just over once annual expenditure at the 2015 review. This difference largely arises because the actual Fund balance at the end of 2017 was higher than projected at the 2015 review. This, in turn, reflects that investment returns achieved by the Fund over 2016 and 2017 were higher than assumed, and also that net inward migration in 2016 and 2017 exceeded the assumption of 700 a year.

1.16 A more detailed comparison of the results of the two reviews is given in Section 6.

Variant assumptions

1.17 As there is considerable uncertainty about the future progress of the Fund, it is important for readers of this report not to place undue emphasis on a single set of projection results. It is therefore appropriate to consider how the results of the review would change if alternative, but still plausible assumptions were adopted.

1.18 Therefore, in addition to the three migration scenarios illustrated above, we have also made projections on other “variant assumptions” to show how this would affect the projected financial development of the Fund. For example, we have considered the effect of assuming future investment returns are 3% a year higher or lower than our central assumptions. These scenarios are discussed in Section 5 and indicate that, as well as being particularly sensitive to the migration assumption, the projection of the Fund balance is also significantly influenced by the level of investment return achieved.

1.19 As well as being sensitive to the assumptions about the future, the results will also reflect the Fund’s actual past experience. For example, as noted in paragraph 1.14, the projection of the Fund balance will depend on the initial balance, which will in turn reflect the investment returns that have been achieved in the past.

Conclusions

1.20 The financial outlook for the Fund remains healthy in the short to medium term and the review indicates a significantly higher projected Fund balance than at the 2015 review.

1.21 Based on the central assumptions, the ageing of the population means the break-even contribution rate will rise above the current contribution rate over the next 5 to 10 years under all migration scenarios. This puts pressure on the Fund, which (based on the current benefit and contribution structure) is expected to decline during the following 20 years and not recover unless net immigration is maintained at or around 700 people a year (or investment returns are substantially greater than assumed in the central assumptions).



- 1.22 Indeed, under the lowest assumption for future inward migration (325 a year) the Fund is expected to be extinguished before the end of the projection period. Once the Fund is extinguished, the contribution rate would need to be raised to at least the break-even rates described above.
- 1.23 The projected financial development of the Fund is sensitive to the assumptions adopted. The review has therefore considered how the projections would change if different assumptions were adopted, but it should be recognised that these do not represent the full range of possible future outcomes.
- 1.24 For example, the central assumptions include an allowance for investment returns averaging 2% a year more than earnings growth. If it was instead assumed that investment returns are 3% a year higher or lower than under the central assumptions, this would, respectively, increase or reduce the build-up of the Fund balance. In particular, with assumed investment returns 5% a year more than earnings growth, the Fund is not projected to be exhausted before the end of the projection period in 2077 under any of the migration scenarios. Whereas, in the lower return scenario, only the highest assumption of net inward migration maintains a positive fund balance throughout the projection period.
- 1.25 In practice the returns on the invested assets will be volatile from year to year. Therefore the Fund balance in any particular year could be materially different from our projections. Furthermore, any projection of the Fund balance made at future actuarial reviews will depend on the starting asset value at the review date.
- 1.26 Given the long-term nature of the commitments built up in social security schemes, it is important to take early action to stabilise the future financial position of the Fund. However, the Fund balance is projected to remain well above zero in the short to medium term, and therefore it is not essential to take immediate action over the finances of the Fund.
- 1.27 Nevertheless, we understand that these issues may be considered as part of the States' ongoing social security review – "Living Longer Thinking Ahead". As part of that review, it would be appropriate to start developing a strategy for how the significant Fund balance that is being built up should be used and the related question of how changes in the contribution rate should be managed. This strategy should take into account the States' objectives for social security financing and benefit provision, and any wider issues around public finances.
- 1.28 The financial position of the Fund should in any case be reconsidered at the next actuarial review of the Fund. The current review has been made two years before the next medium term financial plan commences in 2020. The subsequent actuarial review is therefore expected to be carried out two years before the following financial plan, which is due to start in 2024.



2 Introduction and scope of the review

2.1 The financial position of the Jersey Social Security Fund (SSF) is, like any social security scheme, subject to a wide range of factors, such as the structure of the population and economic conditions. For this reason, Article 32 of the Social Security (Jersey) Law 1974 (“the Law”) makes provision for an actuary to carry out reviews of the operation of the Law. In particular, paragraph (1) of that Article provides that:

“... in a year which is a base year ..., and in such other year as the Minister may direct, an actuary shall review the operation of this Law”

A base year is defined as:

“the year 2 years before the first year of a medium term financial plan”

2.2 Paragraph (3) of Article 32 goes on to provide that:

“... the actuary shall report to the Minister on the financial condition of the Social Security Fund and the adequacy or otherwise of the contributions payable under this Law to support the benefits payable thereunder having regard to the liabilities under this Law.”

2.3 This is my report on the latest review of the SSF, which has been carried out as at 31 December 2017, and it includes projections over the period from 2017 to 2077. This review:

- > considers the financial position of the SSF taking into account any changes in legislation and experience since the previous review
- > projects possible future levels of expenditure from the SSF and the contribution rates required to finance this expenditure
- > projects the balance in the Social Security Fund and the Social Security (Reserve) Fund (together “the Fund”), assuming no change in current social security contribution rates

2.4 The results of these calculations are set out in Section 4 of this report.

2.5 The projections in this report are dependent on the data, methodology and assumptions used for the review, which are described later in this report.

2.6 The previous review of the SSF was carried out as at 31 December 2015 and the results were presented in my report dated 12 December 2016.



2.7 The structure of the remaining sections of this report is as follows:

- Section 3 A discussion of how the Fund works
- Section 4 The results of the projections of income, expenditure and the combined balance in the Fund over a period of 60 years, based on the central assumptions
- Section 5 The results of the projections based on alternative assumptions
- Section 6 A comparison of the results in Section 4 with those from the report on the previous review

2.8 The appendices give additional background and more detailed results.

2.9 Under current legislation, the due dates for the actuarial reviews of the SSF are linked to the commencement of successive Medium Term Financial Plans (MTFPs), in line with the overall government electoral and planning cycle (unless the Minister directs more frequent reviews). This review has been made two years before the next MTFP commences in 2020. The subsequent actuarial review would therefore be due two years before the following MTFP, which is due to start in 2024.

2.10 This work has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 and TAS 300 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.

2.11 This report should be read in conjunction with the important limitations set out in Appendix A.



3 How the Fund works

- 3.1 The Fund is designed to provide benefits in certain situations to those who have contributed to the Fund. In particular, subject to meeting the qualifying conditions, the Fund pays benefits in old age, and on earlier death or incapacity. It is not a requirement to be a Jersey resident in order to receive a benefit from the Fund and, in practice, the old age pension is paid to many individuals who do not remain on the Island in old age.
- 3.2 The Fund is financed by social security contributions. Employees and their employer pay a total of 10.5%² of earnings up to the Standard Earnings Limit (SEL, £4,290 per month for 2018). Similar contributions are paid by those individuals paying Class 2 contributions unless they are exempt. Additional contributions are also payable on some earnings over the SEL, together with a States grant, which are described in Appendix B.
- 3.3 The benefits provided and the contributions payable to the Fund, as taken into account in the review, are summarised in Appendix B. Apart from the benefit rates and contribution thresholds, we are not aware of any changes to the benefits and contributions from those on which the 2015 review was based.
- 3.4 A summary of the Fund accounts for the years 2016 to 2017 is set out in Appendix C. Appendix D provides a summary of the data used for the review, which was provided by Jersey's Department for Strategic Policy, Performance and Population. Although we have reviewed the data provided for reasonableness, we are not in a position to carry out formal checks on its accuracy and completeness.
- 3.5 Up to 1998, the Fund had broadly followed a pay-as-you-go financing approach. Under this approach, contribution income in a year is intended to cover expenditure in the year, and no significant fund of assets would be built up out of which to finance future expenditure. However, the pay-as-you-go approach implies increases in contribution rates, often substantial, as the population ages, a feature that is common to many countries including Jersey.
- 3.6 Therefore, in order to confront Jersey's ageing demographic profile over the next 30 to 40 years, it was decided to raise contribution rates above the required pay-as-you-go rate³. This has meant that there should generally be an excess of income over expenditure, which is transferred each year from the SSF to the Social Security (Reserve) Fund. The intention was to build up the Reserve Fund to a level of around five times the annual expenditure on benefits and administration from the SSF.

² This excludes the 2% contribution payable to the Health Insurance Fund.

³ Contribution rates were increased by 0.5% in each year from 1998 to 2002



- 3.7 Over the two years ended 31 December 2017, income to the SSF has exceeded expenditure by about £29 million, and transfers of about £45 million have been made from the SSF to the Reserve Fund over this period. The average assets of the combined Fund over 2017 represented around 7½ times total expenditure from the SSF.



4 Results based on central assumptions

- 4.1 Estimates have been made of the future income, benefit expenditure and administration expenditure of the Fund over the period from 2017 to 2077. The projections in this section are based on the “central assumptions” described in Appendix F. A key element of these assumptions is the population projections, which were specified by the States and include three migration scenarios (see Appendix E). We have chosen the remaining assumptions and these are intended to represent a best estimate of future experience, except where otherwise stated.
- 4.2 The assumptions include that:
- > the size of the population will follow the projections prepared by the Jersey Statistics Unit assuming net immigration of 325, 700 or 1,000 people each year
 - > the future rate of return on investments, net of associated expenses, will be 2% a year in excess of earnings increases
 - > earnings limits for contributions and benefit rates will increase in line with general earnings growth, except that allowance has been made for the impact of the indexation of the old age pension now being subject to a minimum of the increase in the RPI (pensioner) index
 - > in line with current legislation, the States’ Grant will revert to the formula described in paragraph B.26 (in Appendix B) from 2020
- 4.3 The population projections include implicit assumptions on the age profile of migrants entering and leaving the island. It should be noted that if the assumed age profile were amended, this would be likely to change the results of the review, even if the assumed overall net level of immigration were unchanged.
- 4.4 To the extent that future experience differs from the assumptions made, the financial development of the Fund will differ from the projections in this report.
- 4.5 Details of the projections in selected years are given in Appendix G and a summary of the key results is set out in this section. Where monetary amounts are shown these are in constant 2017 earnings terms.
- 4.6 Table 4.1 summarises the projections, in particular showing:
- > the “break-even” contribution rates; these are the rates that would be required in order for contribution income to equal expenditure on benefits and administration costs, ignoring any Fund balance and the investment return earned thereon, and would be the rates required if the Fund were following the pay-as-you-go financing approach
 - > the balance in the Fund expressed as a multiple of annual expenditure, assuming the current rates of contribution remain unchanged.



4.7 For these results:

- > contributions to the Health Insurance Fund have been excluded from the break-even rates
- > the break-even contribution rate is the rate that would need to be paid in respect of income up to the Standard Earnings Limit (SEL); it is also the rate on which supplementation contributions⁴ would be based.

4.8 Although this report presents projections of the break-even contribution rates, these are not necessarily the rates that need to be paid to the Fund. In practice, the required rate of contributions will depend on the financing strategy that is adopted, and in particular how any assets (and the investment return they generate) should be used to finance Fund expenditure. As mentioned in paragraph 1.26, we recommend that the financing strategy should be considered as part of the States' ongoing social security review – "Living Longer Thinking Ahead".

⁴ In broad terms, the supplementation contributions are the additional contributions that would be payable if contributions were based on the SEL rather than actual income. The States grant is set by reference to these supplementation contributions and the 2% contributions payable on income between the SEL and Upper Earnings Limit (UEL).



Table 4.1: Estimates of the break-even contribution rates⁵, expenditure from the Social Security Fund and the Fund balance based on the central assumptions and expressed in constant 2017 earnings terms

Year	Break-even rate (% of earnings)	Expenditure (£m)	Fund balance at year end (£m)	Average balance over year expressed as a multiple of annual expenditure
<i>Net immigration of 325 people a year</i>				
2017	9.9%	230	1,852	7.6
2022	10.4%	249	2,069	8.2
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2067	11.5%	358	1,969	5.5
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<i>Net immigration of 1,000 people a year</i>				
2017	9.9%	230	1,852	7.6
2022	10.0%	251	2,105	8.3
2027	10.6%	278	2,346	8.4
2037	12.2%	351	2,564	7.3
2047	11.8%	369	2,600	7.0
2057	10.9%	370	2,872	7.7
2067	10.5%	382	3,440	8.9
2077	10.6%	414	4,191	10.0

⁵ In comparison with the current total contribution rate of 10.5% applied to earnings up to the Standard Earnings Limit (SEL).



4.9 The break-even contribution rates and the Fund balance, expressed as a multiple of annual expenditure, are illustrated in the following charts for each migration scenario.

Figure 4.1: Projected break-even contribution rates based on the central assumptions

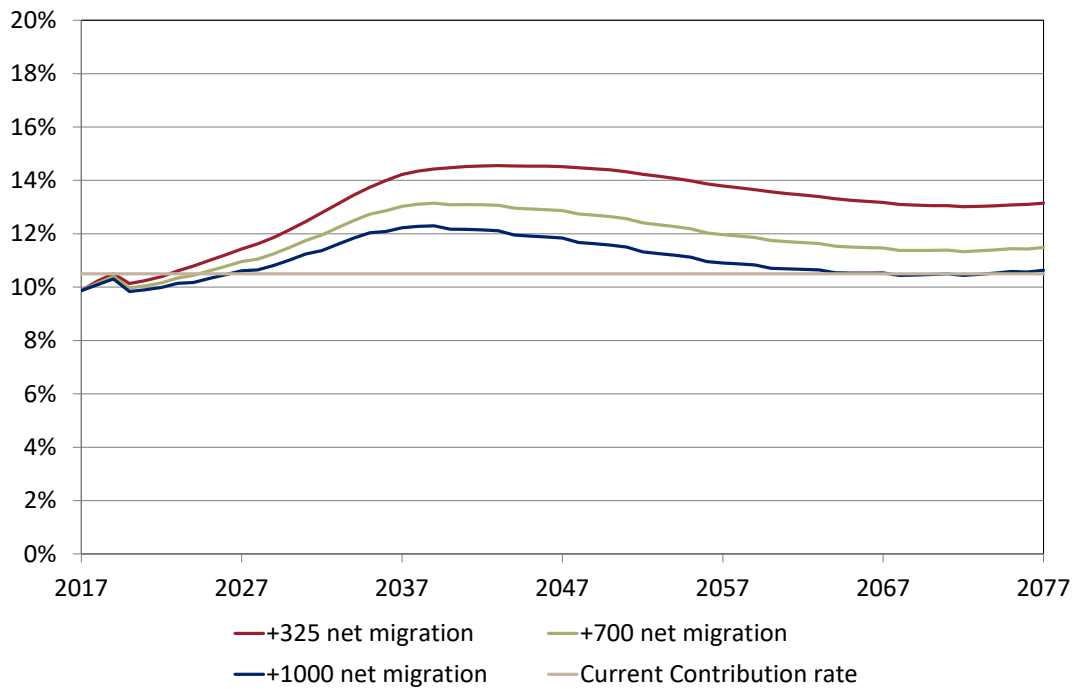
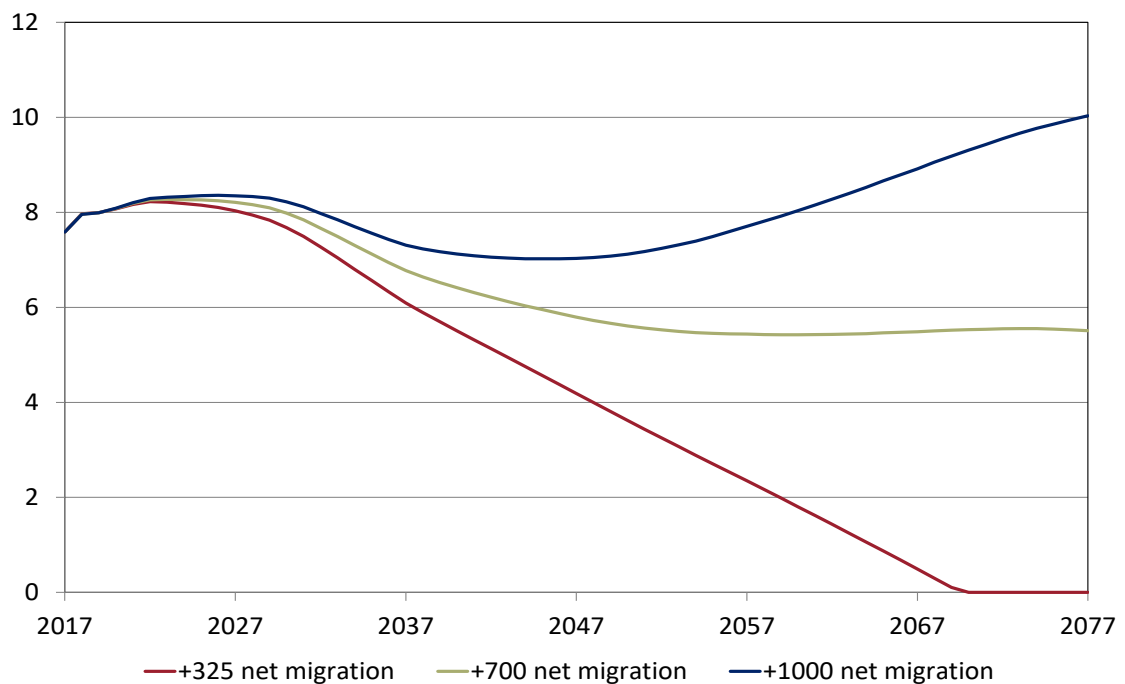


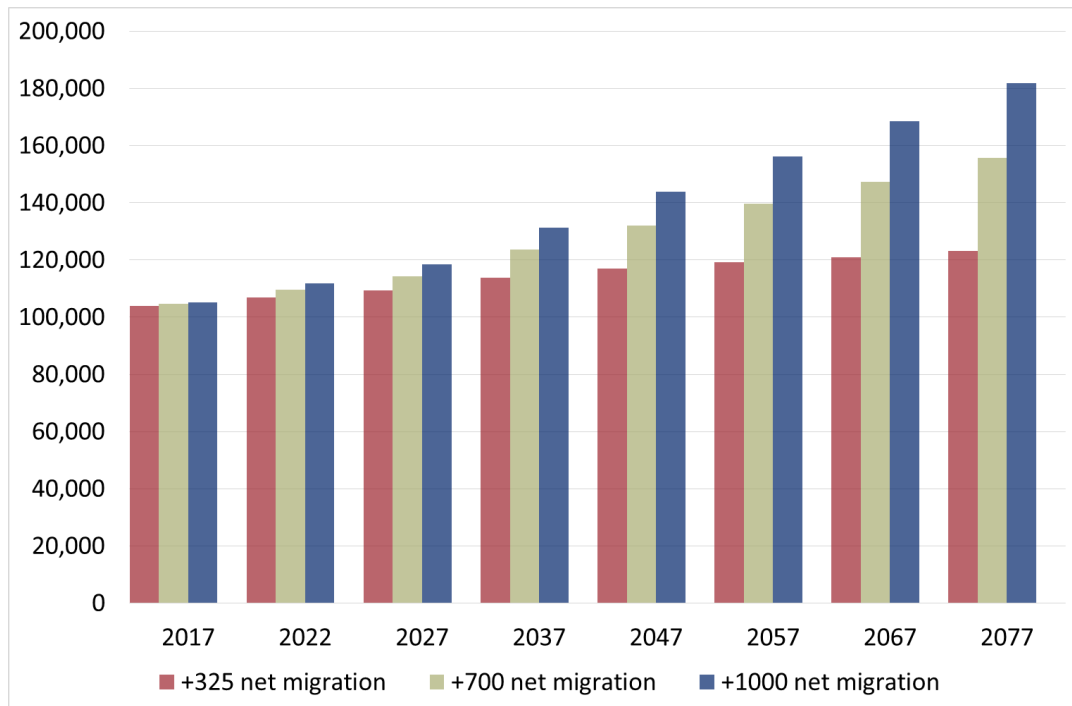
Figure 4.2: Projected Fund balance expressed as a multiple of annual expenditure based on the central assumptions





4.10 In order to illustrate the demographic context for these results, the following chart summarises the projected population numbers under each migration scenario. A more detailed summary of the population projections is given in Appendix E.

Figure 4.3: Projected total population numbers under each migration scenario



4.11 In summary, the results are:

Break-even contribution rate

4.12 For each migration scenario, the break-even contribution rate is projected to start off below the current rate of 10.5% but then to rise quickly above this, reaching a peak by around 2040. This peak ranges from 12.3% under the assumption of 1,000 a year net inward migration to 14.5% assuming 325 a year net inward migration.

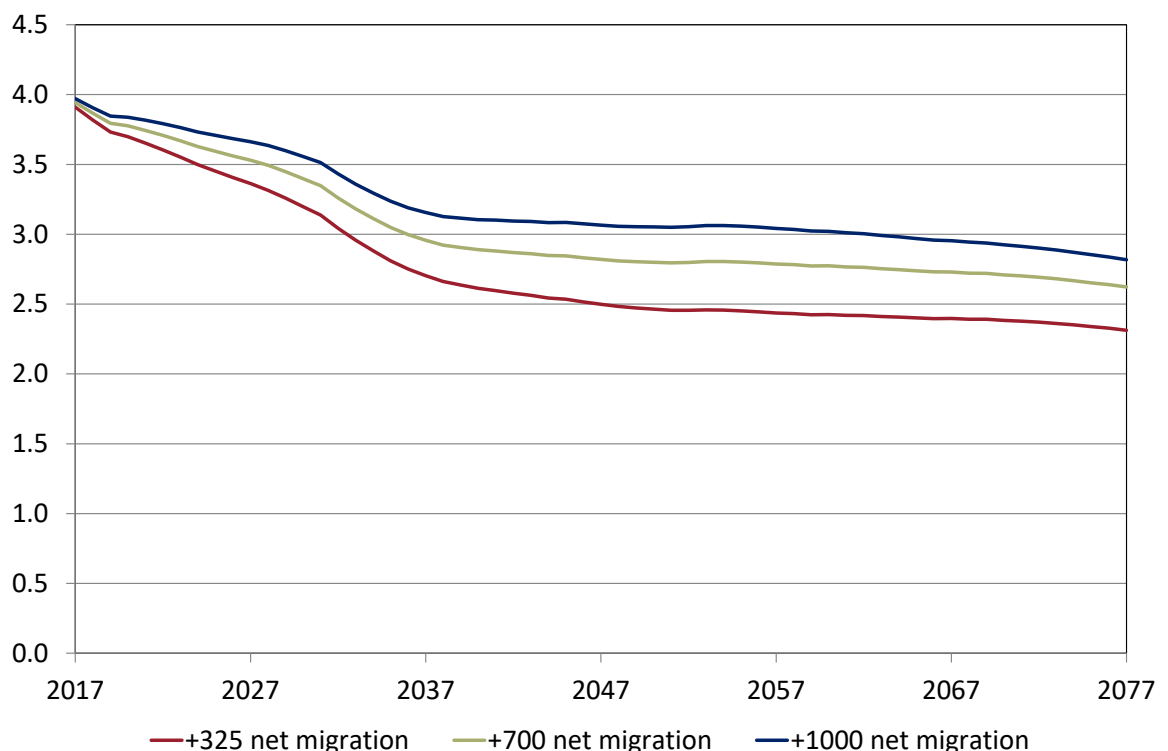
4.13 Thereafter, the projected break-even contribution rate declines gradually before rising slightly in the final years of the projection.

4.14 When the break-even contribution rate exceeds 10.5%, it means that expenditure is projected to exceed contribution income. This, in turn, implies that, unless the actual contribution rate were increased or benefits reduced, it would be necessary to draw down assets and/or use the investment return earned in order to finance expenditure.



- 4.15 It can be seen that the break-even contribution rate rises rapidly in the years up to 2019, before falling back in 2020. In general, it is assumed that contributions will rise each year in line with earnings. However, this is not the case in the period 2017 to 2019 because, for those years, the States grant has been fixed in cash terms. As a result, contributions received in those years will be lower than they would have been had the States grant risen in line with earnings, and in order to compensate for this, the break-even rate has to be higher. From 2020, it is assumed that the standard approach to setting the States grant is applied, under which it is indexed to earnings increases.
- 4.16 The main driver of the projected increase in the break-even contribution rates over time is the ageing of the population, resulting in a decrease in the number of contributors relative to those of pensionable age. This is illustrated in Figure 4.4 below for all three migration scenarios. For example, the number of people of working age for each person over pension age (excluding overseas pensioners) is projected to reduce from just under 4 in 2017 to about 2.8 around halfway through the projection period on the net inward migration assumption of 700 people each year.

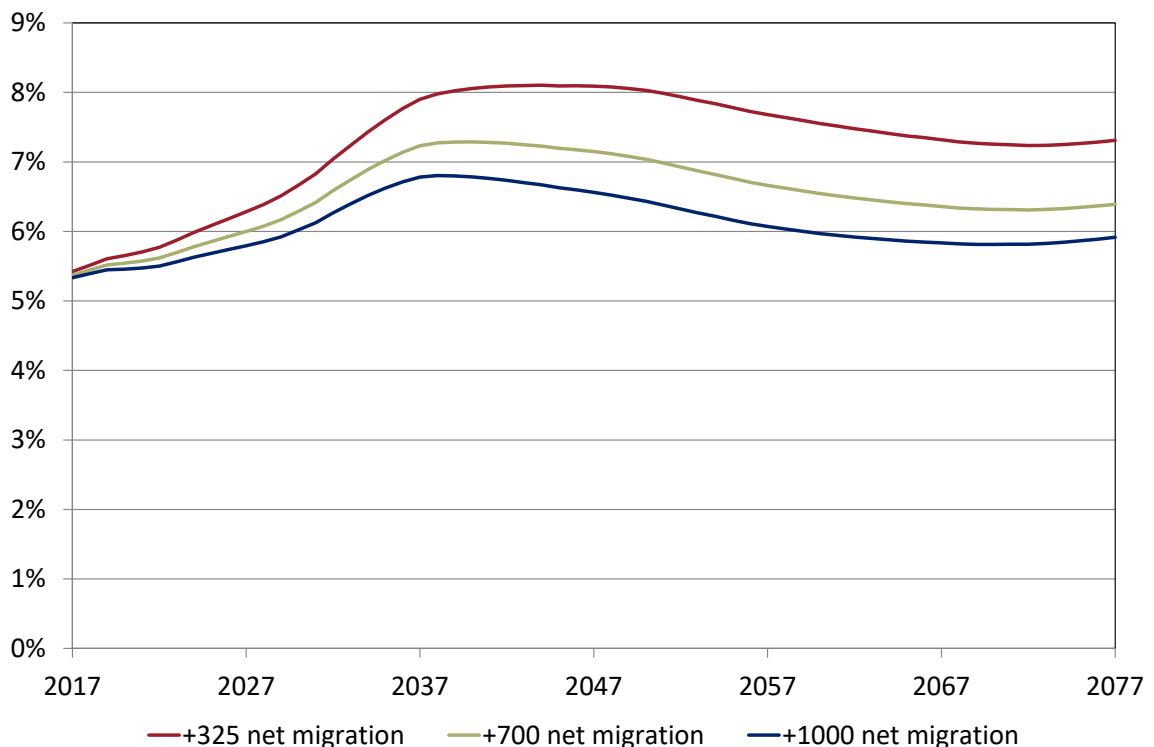
Figure 4.4: Pensioner support ratio (that is, the number of people of working age for each person over pension age)





- 4.17 Higher levels of inward migration, therefore help to limit the fall in the pensioner support ratio, and thereby also limit the increase in the break-even contribution rate. However, it is important to understand that if, in future, inward migration were to fall significantly, or even become net outward migration, the pensioner support ratio could then start to fall quickly (other things being equal) and there would be a corresponding rise in the break-even contribution rate.
- 4.18 The break-even contribution rates indicated by the review are similar to those projected at the 2015 review, although the rates shown at the 2017 review are slightly lower in the early years and final years of the projection period, and slightly higher in the intervening years. Further discussion of the differences between the results of the two reviews is given in Section 6.
- 4.19 In considering the sustainability of the Fund, it is also useful to consider how expenditure relates to the size of the economy as a whole. We have therefore expressed projected benefit expenditure as a percentage of projected Gross Value Added (GVA), which we understand is the measure of economic output generally used in Jersey. This is illustrated in the following chart.

Figure 4.5: Projected benefit expenditure as a percentage of projected GVA





- 4.20 Figure 4.4 illustrates that benefit expenditure is projected to represent about 5.3% of GVA initially, but is projected to rise quickly over the first twenty years of the projection. As a percentage of GVA, benefit expenditure is projected to reach a peak of between 6.8% and 8.1%, depending on the migration scenario. Thereafter, projected benefit expenditure as a percentage of GVA declines before rising slightly in the final years of the projection.
- 4.21 The pattern is broadly similar to the pattern of changes in the break-even contribution rates shown in Figure 4.1. This is expected because we assume that GVA will in future grow in line with the size of the working age population, which is also a key driver of contribution income to the Fund.

Fund balance

- 4.22 The progress of the combined Fund balance, assuming current rates of contribution are maintained, is highly dependent on the assumed level of migration, as shown in Figure 4.2.
- 4.23 On the assumption of 325 a year net immigration, the balance is projected to be extinguished during 2070 and at that point the contribution rate would need to rise to the break-even rate, or additional funding would be required, in order to meet expenditure. In practice, to the extent that part of the Fund balance is not readily convertible into cash (for example, some property investments) and to maintain a working cash balance, it would be necessary to increase the contribution rate or take alternative action before the balance is fully extinguished.
- 4.24 In contrast, under the assumption of higher net inward migration, the Fund balance is not projected to be extinguished during the projection period up to 2077. Indeed, with assumed migration of 1,000 a year, the Fund balance is projected to grow over the projection period.
- 4.25 For these results, it is assumed that, in each year of the projection period, investment returns will be 2% a year in excess of earnings increases. In practice, investment returns will vary from year to year and the actual development of the Fund balance will reflect the investment returns that are actually achieved. This could result in a materially higher or lower Fund in any one year than projected, and if this coincides with an actuarial review date it may materially alter the expected projection of the Fund into the future.
- 4.26 This review shows significantly higher projected Fund balances compared with the 2015 review, and this largely reflects the higher than expected investment returns achieved in 2016 and 2017. If investment returns in those two years had been lower than expected, then the projected Fund balances at this review would have been correspondingly lower.



- 4.27 We understand that the original intention behind building up a fund of assets was to help address the financial challenges stemming from an ageing population, for example by using the assets (and the investment return they earn) to help finance part of Fund expenditure. Now that a substantial Fund balance has been accumulated it would be appropriate to start developing a strategy for how those assets should be used and the related question of how changes to the contribution rate should be managed. This strategy should take into account the States' objectives for social security financing and benefit provision, and any wider issues around public finances. In doing this, it will be important to recognise that there is a great deal of uncertainty over future experience, which could differ significantly from the projections made in this report.



5 Illustrative effects on the central results of variations in the assumptions

- 5.1 The results described in Section 4 are dependent on a number of assumptions which have been made with regard to the future experience of the Fund. These assumptions include:
- > demographic assumptions, such as future fertility and mortality rates, and future levels of migration
 - > economic assumptions, such as the future rate of return on the investments of the Fund, and the proportions of the population that contribute to the Fund
 - > benefit assumptions, such as the expected numbers and amounts of awards of old age pensions
- 5.2 The projections are also sensitive to other possible future events which are not the subject of explicit assumptions, for example a change to the benefit or contribution structure or external events that mean other chosen assumptions are incorrect.
- 5.3 For these reasons, there is considerable uncertainty about the future progress of the Fund. While the assumptions adopted form a reasonable basis for the review, in practice the Fund's experience, and hence its financial progress, will be different. These differences will be analysed and taken into account in setting assumptions for future reviews. It is important for readers of this report not to place undue emphasis on a single set of projection results. Instead, it is appropriate to consider the effect on the Fund if actual experience differs from the central assumptions.
- 5.4 We have therefore also prepared results on the basis of variant, but still plausible, assumptions. The assumptions considered are those to which the financial development of the Fund is likely to be particularly sensitive, although there may be other factors that could also have a significant impact.

Demographic assumptions

- 5.5 In preparing the results in Section 4 we have been asked to use three alternative central assumptions for migration: net immigration of 325, 700 and 1,000 a year. For the 2015 review, we considered the same three migration scenarios, except that net immigration of 350 a year was assumed instead of 325 a year. For context, as noted in paragraph F.12, immigration has averaged around 1,300 people a year over the three years 2015 to 2017, although, in the earlier period from 2001 to 2014, immigration averaged around 650 people a year.



- 5.6 These migration scenarios show that the higher the level of future net inward migration (assuming it takes place at working ages), the longer any necessary increases to contribution rates could be deferred (other things being equal). Conversely, net outward migration, of working age individuals, would require contribution rates to be increased sooner. It should be noted the three alternative migration scenarios are illustrative and should not be taken as setting bounds to the range of possibilities. Furthermore, in practice, the level of migration will vary over time, and this will lead to different patterns of required contribution rates.
- 5.7 Attention should also be given to the possible effects on the results if the experience with regard to future fertility and mortality rates were to differ from the assumptions made.
- 5.8 Any changes in future rates of fertility would have little effect on the projected benefit expenditure over the period of the review, since people who are born after the date of the review will not reach pension age during the projection period. However, the level of contribution income would be affected, other things being equal (that is, assuming that extra births are not simply offset by lower future migration), after an initial period of around 20 years. An increase in the assumed fertility rates would therefore reduce the required break-even contribution rates after around 20 years⁶, and delay the point at which contribution rates would need to be increased. Conversely, a decrease in the assumed fertility rates would increase the break-even contribution rates after about 20 years. The longer term effect of changes in fertility rates will depend on whether those changes are temporary or are sustained over a long period.
- 5.9 Changes in the assumed rates of mortality would have little effect on contribution income. However, if it were assumed that rates of mortality would improve (that is, reduce) more quickly in the future, this would increase the projected expenditure on old age pensions, and consequently increase the required break-even contribution rates. Conversely, slower improvements in the assumed rates of mortality would improve the future financial position of the Fund.
- 5.10 In practice, levels of migration, fertility and mortality may be linked. For example, higher levels of working age migrants may lead to higher fertility rates, but for the purposes of the results in Section 4 we have maintained the same fertility rates for each migration scenario.

Economic assumptions

- 5.11 It has not been necessary to make long-term assumptions regarding the future levels of price inflation or long-term earnings growth for this review. All results are presented in constant earnings terms, and benefit rates and contribution limits are generally assumed to be increased in line with earnings growth in the future. Therefore the absolute levels of price inflation or earnings growth do not affect the results in this report.

⁶ However, once those extra births had started drawing pensions, after the end of the projection period, the break-even rates would increase again.



- 5.12 However, in the case of the old age pension (OAP), an additional loading has been applied in order to make broad allowance for indexation of the OAP now being subject to a minimum of the increase in the RPI (Pensioner) index (see paragraphs F.73 to F.77). This loading is intended only as an indicative assumption of the possible impact of the RPI underpin on the basis that earnings and price inflation over the next twenty years broadly reflects the pattern over the period from 2001 to 2018. The actual impact could be quite different, depending on the precise relationship between price inflation and earnings growth from year to year. Nevertheless, it should be noted that this underpin could have a significant cost where there are sustained periods when there is little or no growth in earnings relative to prices. An indication of the impact of higher or lower OAP expenditure is given in Table 5.2 below.
- 5.13 For the purposes of projecting the balance in the Fund, it has been necessary to make an assumption regarding the future rate of return of the investments. It has been assumed for the central results that the future rate of return, net of associated expenses, is 2% per annum in excess of earnings increases. This is discussed further in Appendix F commencing at paragraph F.78.
- 5.14 The effects on the projected Fund balance of assuming future investment return 3% a year higher or lower than the assumption for the central results is shown in Table 5.1 and the following three charts. For comparison, we have estimated that the Fund achieved investment returns net of earnings increases of 9.3% a year over the six years 2012 to 2017, but over the longer period from 2000 to 2017 returns averaged about 2.3% a year net of earnings growth.
- 5.15 The results below indicate how sensitive the projected development of the Fund is to the combination of population projection variant and investment return assumption. In particular, assuming investment returns of 5% per annum in excess of earnings increases leads to a sustained and ultimately improving Fund as a multiple of expenditure in the long term, for all of the migration scenarios.
- 5.16 The assumed rate of investment return does not affect the required break-even contribution rates, since these are the rates which are sufficient for contribution income in a particular year to meet benefit expenditure and expenditure on administration in that same year, without reference to investment income or the Fund balance.



Table 5.1: Effect of assuming future investment returns of 1% a year below, and 2% or 5% a year above, earnings increases on the projected Fund balance expressed as a multiple of annual expenditure

Year	Net immigration of 325 people a year			Net immigration of 700 people a year			Net immigration of 1,000 people a year		
	(1%)	2%	5%	(1%)	2%	5%	(1%)	2%	5%
2017	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
2022	7.2	8.2	9.4	7.2	8.3	9.4	7.3	8.3	9.4
2027	6.0	8.0	10.6	6.2	8.2	10.8	6.3	8.4	11.0
2037	2.8	6.1	11.9	3.4	6.8	12.7	3.8	7.3	13.3
2047	-	4.2	15.3	1.1	5.8	17.3	2.1	7.0	18.9
2057	-	2.3	22.4	-	5.4	26.7	1.2	7.7	29.8
2067	-	0.5	35.0	-	5.5	41.9	0.9	8.9	46.7
2077	-	-	53.9	-	5.5	63.9	0.7	10.0	70.3
Year Fund extinguished ⁷	2046	2070	n/a	2053	n/a	n/a	n/a	n/a	n/a

⁷ The Fund is projected to remain positive throughout the projection period for scenarios shown as n/a.



Figure 5.1: Projected balance in the Fund as a multiple of expenditure for different assumptions on investment return in excess of earnings and net immigration of 325 people a year

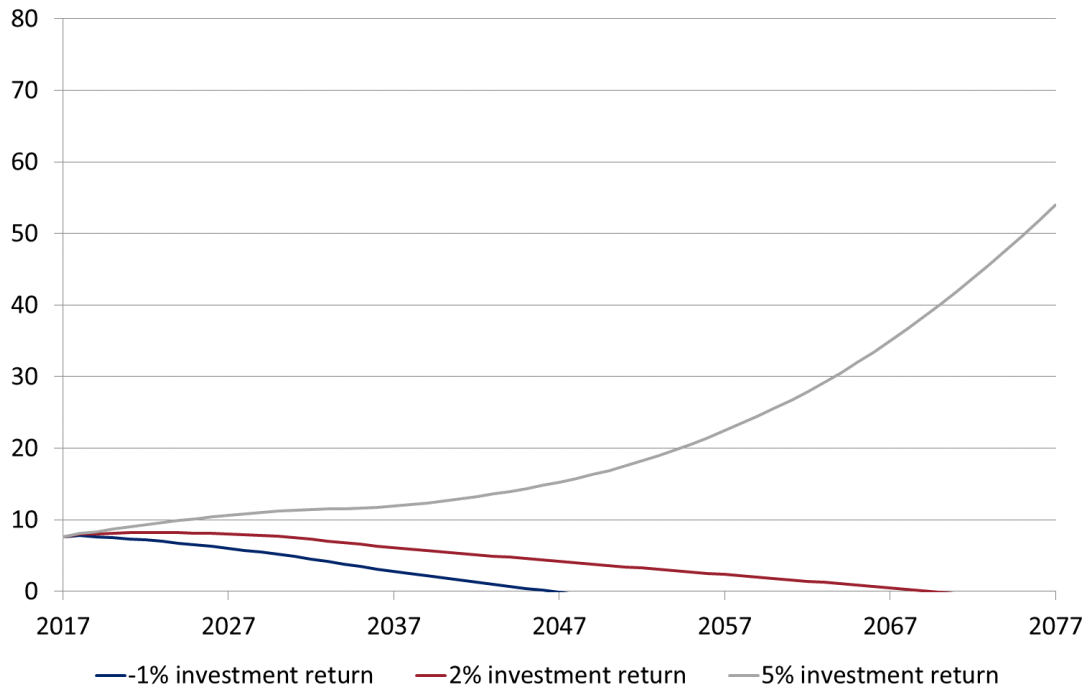


Figure 5.2: Projected balance in the Fund as a multiple of expenditure for different assumptions on investment return in excess of earnings and net immigration of 700 people a year

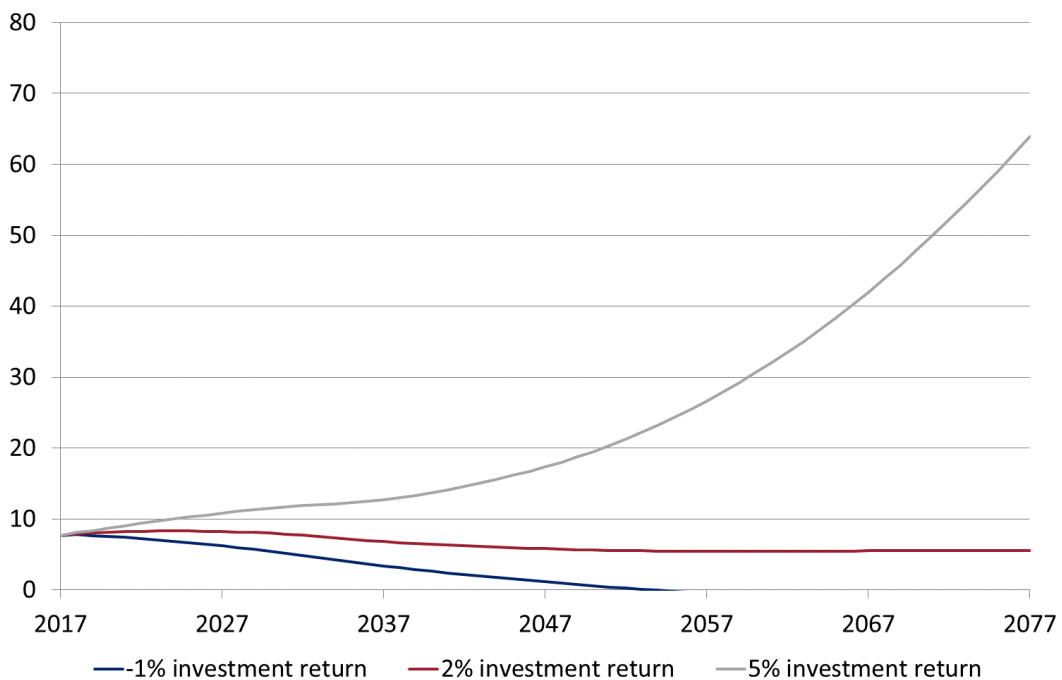
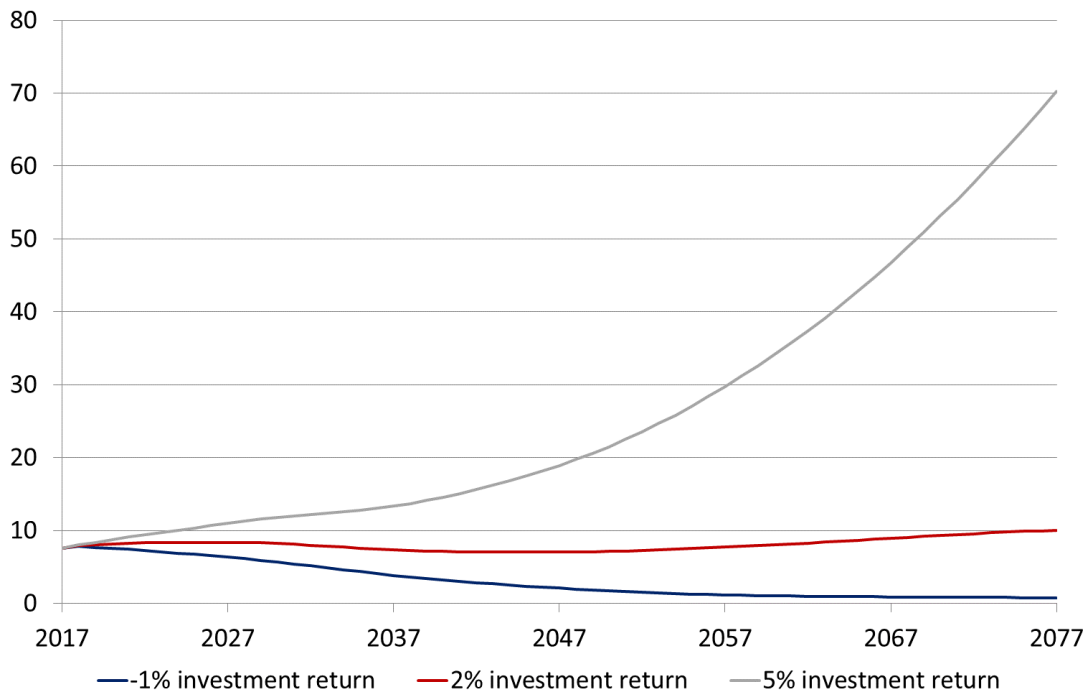




Figure 5.3: Projected balance in the Fund as a multiple of expenditure for different assumptions on investment return in excess of earnings and net immigration of 1,000 people a year



Benefit assumptions

- 5.17 The OAP is the most significant item of Fund expenditure. While the assumptions adopted in projecting this expenditure are considered reasonable, there remains some uncertainty over the future level of expenditure. For example, the proportion of non-residents who claim the pension they have previously built up in Jersey may change over time, reflecting different migration patterns. Similarly, the proportion of people who build up sufficient contributions in order to qualify for a pension could vary, again depending on future migration patterns and also changes in reciprocal social security agreements. It is also possible that, in future, the rate of pension might be increased or reduced relative to its current value indexed in line with earnings.
- 5.18 In order to provide an indication of the variability of the results of the review, Table 5.2 indicates the projected break-even contribution rates and the year in which the Fund balance is extinguished (assuming that the current contribution rates continue) if the future costs of old age pensions were to be 10% higher or lower than those assumed for the main projections. This is assumed to build up uniformly between 2017 and 2047 and remain 10% higher thereafter. The 10% variation should not be considered to be an upper or lower bound for future old age pension expenditure. Instead, these results should be regarded as an example of the potential effects on the projections if experience were to differ from the assumptions made for the review.



Table 5.2: Illustrative effects of expenditure on old age pensions being either 10% higher or 10% lower from 2047 compared with the central results, with this difference phased in uniformly from 2017

	Net immigration of 325 people a year			Net immigration of 700 people a year			Net immigration of 1,000 people a year		
	Main results	Pensions 10% higher	Pensions 10% lower	Main results	Pensions 10% higher	Pensions 10% lower	Main results	Pensions 10% higher	Pensions 10% lower
Break-even contribution rate (%)									
2017	9.9%	9.9%	9.9%	9.9%	9.9%	9.9%	9.9%	9.9%	9.9%
2022	10.4%	10.5%	10.3%	10.2%	10.3%	10.0%	10.0%	10.1%	9.9%
2027	11.4%	11.7%	11.1%	11.0%	11.2%	10.7%	10.6%	10.9%	10.3%
2037	14.2%	15.0%	13.4%	13.0%	13.7%	12.3%	12.2%	12.9%	11.6%
2047	14.5%	15.7%	13.3%	12.9%	13.9%	11.8%	11.8%	12.8%	10.9%
2057	13.8%	14.9%	12.6%	12.0%	12.9%	11.0%	10.9%	11.8%	10.0%
2067	13.2%	14.3%	12.1%	11.5%	12.4%	10.5%	10.5%	11.4%	9.7%
2077	13.1%	14.2%	12.1%	11.5%	12.4%	10.6%	10.6%	11.5%	9.8%
Year Fund extinguished ⁸	2070	2056	n/a	n/a	2076	n/a	n/a	n/a	n/a

5.19 The results shown in this section have generally considered the effects of varying one particular assumption in isolation. However, in practice, it is likely that differences between future experience and our assumptions will occur in combination.

⁸ The Fund is projected to remain positive throughout the projection period for scenarios shown as n/a.



6 Comparison of results in this report with those from the report on the previous actuarial review

- 6.1 In this section we have compared the results from the 2015 review with those from the 2017 review. In general, the break-even contribution rates indicated by the two reviews are similar, although the rates shown at the 2017 review are slightly lower in the early years and final years of the projection period, and slightly higher in the intervening years. There is a more marked difference in the projected Fund balance, with the 2017 review indicating significantly higher balances than the 2015 review.
- 6.2 We have made a detailed comparison of the break-even contribution rates at each review, based on assumed future net immigration of +700 a year. The change in the break-even contribution rates at the two reviews is illustrated in the following table, which gives an approximate breakdown of the main reasons for the change.

Table 6.1: Comparison of results in this report with those from the report on the previous actuarial review – break-even contribution rates (%)⁹

Year of projection	2017	2027	2037	2047	2057	2067
2015 review (+700 net immigration)	10.4	11.3	12.9	12.6	12.0	12.0
Approximate effect of changes to:						
Population projection	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2
Contributor projection	-0.1	+0.1	+0.1	+0.1	+0.0	+0.1
Old age pension projection	-0.2	-0.1	+0.4	+0.5	+0.3	-0.0
Expense assumption	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1
Other effects	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2
2017 review (+700 net immigration)	9.9	11.0	13.0	12.9	12.0	11.5

- 6.3 We comment on each element of the change in the break-even contribution rate as follows:

- > Population projection: compared with the 2015 review, the population projections used for the 2017 review imply a slightly greater number of people at working ages relative to those over pension age and this acts to reduce the break-even contribution rate

⁹ Figures may not sum due to rounding.



- > Contributor projection: overall, at the 2017 review, we have slightly amended our assumptions on the proportion of the population that contributes to the Fund, taken into account new data on earnings distributions and aligned with the latest accounting information (see paragraphs F.13 to F.22); the net effect of these changes is generally to increase slightly the required contribution rate; in this item, no allowance is made for the effect different numbers of contributors would have on benefit expenditure
- > Old age pension projection: this is by far the most financially significant benefit paid by the Fund; a key change to the projection methodology at the 2017 review is that we have applied a 0.95 reduction factor to future awards in order better to align with recent data (see paragraph F.31); this has the effect of reducing the break-even rate; however, we have also applied an additional loading to reflect the cost of the price inflation underpin on indexation of the OAP and this increases the break-even at the contribution rate over the first 40 years of the projection
- > Expense assumption: this has been reduced (based on the analysis of past experience) from 3.0% of benefit expenditure at the 2015 review, to 2.5% of benefit expenditure at the 2017 review; this has the effect of reducing the projected break-even contribution rate by about 0.1% in each year

6.4 The remaining effects include the changes to the assumptions for valuing the more minor benefits, in particular the incapacity allowances.

6.5 As noted above, the 2017 review indicates significantly higher projected Fund balances than the 2015 review. For example, at the 2015 review, the Fund, based on net immigration 700 a year, was projected to stand at 2.2 times annual expenditure in 2067. At the 2017 review, this has increased to 5.5 times annual expenditure. There are two key reasons for this:

- > investment returns achieved on the Fund in the period between the two reviews (ie 2015 to 2017) were higher than assumed at the 2015 review and this meant that the Fund balance in 2017, as a multiple of expenditure, was significantly greater than that projected at the 2015 review
- > although the relationship between the break-even contribution rates at the two reviews varies over time, overall the rates are lower at the 2017 review and this leads to a greater projected surplus (or smaller shortfall) of income over expenditure.



Appendix A: Limitations

- A.1 The projections shown in this report depend on the assumptions adopted. While the assumptions adopted form a reasonable basis for the review, in practice the Fund's experience, and hence its financial progress, will be different. Section 5 shows how the projections would change under different sets of assumptions, although these should not be interpreted as representing the full range of possible future experience.
- A.2 The projections only consider income to and expenditure from the Fund and, in particular, make no allowance for any impact these might have on means-tested benefit payments or tax receipts.
- A.3 A significant proportion of old age pensions are paid to individuals who live outside Jersey. The modelling does not attempt to breakdown expenditure between those receiving their pension in Jersey and those residing elsewhere. It is also implicitly assumed that, for each cohort reaching pension age, the split between those on and off the island will remain stable over their remaining life times.
- A.4 The modelling approach means that the projection of contribution income should be consistent with projected expenditure on old age pension. As noted at paragraphs F.30 and F.31, a broad adjustment has been made for some contributions not to generate an entitlement to old age pension. However, given there was little data on which to base this adjustment, it should be regarded as illustrative and should be reconsidered at future actuarial reviews.

Using this report

- A.5 This report has been prepared for the Minister for Social Security ("the Client"), although it is understood that the report will be made publicly available.
- A.6 However, no person or third party is entitled to place any reliance on the contents of this report, except to any extent explicitly stated herein, and GAD has no liability to any person or third party for any act or omission taken, either in whole or part, on the basis of this report.
- A.7 In preparing this report, GAD has relied on data and other information supplied by the Client, as described in the report. Any checks that GAD has made on this information are limited to those described in the report, including any checks on the overall reasonableness and consistency of the data. These checks do not represent a full independent audit of the data supplied. In particular, GAD has relied on the general completeness and accuracy of the information supplied without independent verification.
- A.8 It is anticipated that the results in this report will be used by the Client for information purposes and for considering possible changes to contributions or benefits payable. However, before deciding on any potential changes, further actuarial advice should be sought in order to confirm the potential impact on the finances of the Fund.



- A.9 GAD are not legal or investment advisers and our advice does not constitute legal or investment advice. Advice in these areas should be sought from appropriately qualified persons or sources.
- A.10 This report has been prepared for use by persons technically competent in the areas covered. This report must be considered in its entirety, as individual sections, if considered in isolation, may be misleading, and conclusions reached by review of some sections on their own may be incorrect.
- A.11 We understand that, in some circumstances, our report may be translated into other languages. In this case, GAD will not be held responsible for any action taken on the basis of the translated report rather than the English version. Any translation of the report must make it clear that only the original English language version is definitive.



Appendix B: Summary of contributions and benefits

B.1 This appendix summarises the central provisions regarding the contributions and benefits set out in the Social Security (Jersey) Law 1974 as at 31 December 2017 on which the estimates in this review have been based. GAD is not aware of any other material changes to the Law. This summary concentrates on those aspects of contribution and benefit rules that are significant in financial terms.

Old age pensions

B.2 The current rules on the receipt of old age pensions were introduced for those claiming a pension on or after 1 April 2001¹⁰. Slightly different rules applied for claims made before this date.

B.3 The pension age is 65, with pension age due to increase from 65 to 67 over the period from 2020 to 2031. However, women who registered with social security before 1 January 1975 retain the right to claim a pension from age 60. It is also possible to claim a pension between the ages of 63 and 65, at the option of the pensioner, if the necessary qualifying conditions are met. In such cases, the amount of old age pension is reduced by 0.58% for each month between the age at which the pensioner starts to receive their pension and the month in which they attain pension age. The pension continues to be paid at this reduced level for life.

B.4 Under the current rules, the pensioner must have paid contributions for at least six months and, to receive the full rate of old age pension (see Table A.1), must have a life average contribution factor (LACF) of 1.00. The LACF is calculated as the ratio of the contributions paid or credited to the contributions (based on earnings at the standard earnings limit – see paragraph B.24) that could have been made over a 45 year period between school leaving age and pension age (due to increase to 47 in line with increases in State Pension Age). In calculating the LACF, allowance is made for any supplementation contributions (as described in paragraph B.24) provided in respect of the pensioner.

B.5 For those with an LACF less than 1.00, the benefit is reduced pro rata, but no pension is awarded if the LACF is under 0.10. (This 0.10 can be achieved by combining contributions across reciprocal agreement countries.) Women married prior to April 2001 can claim a pension based on their husband's contribution record to the value of 66% of that payable to their husbands. In the event such a woman is widowed, on reaching pensionable age she may claim 100% of the pension payable to her husband. Women married after 2001 are expected to draw a pension based on their own record. Women born after 1957, reaching pensionable age after 2022, when transitional arrangements regarding survivor's benefits have expired (see B.10) will be able in the event of their husband's death to substitute their own record with that of their husbands in respect of marriages before April 2001 for the duration of the marriage.

¹⁰ These rules introduced by the Social Security (Amendment No. 14) (Jersey) Law 2000.



- B.6 From 2013, a new method has been introduced for increasing the rate of old age pension. In broad terms, under this method, pensions will be increased in line with earnings. However, if in any year the increase in the RPI (pensioner) index exceeds the increase in the earnings index, then pensions will be increased in line with the RPI (pensioner) index, but then future increases will be “clawed back” in order to target earnings indexation over the long term.
- B.7 We understand that, in line with the method described above, the old age pension was increased by 2.8% at October 2017, which reflected the RPI (pensioner) index, and compared with the increase in the earnings index of 2.6%. Therefore, it is expected that 0.2% of the 2017 increase will be clawed back against future pension increases.
- B.8 Only the old age pension is subject to the above method of calculating the annual increase. Other benefits are increased each year in line with the increase in the earnings index.

Benefits for surviving widows and widowers

- B.9 There are two benefits paid to people widowed in April 2001 or later. A survivor's allowance of 1.2 times the standard benefit rate (see Table B.1) is generally paid when a man or woman is widowed and at least one of the spouses or civil partners was under pension age at the date of death. This allowance is paid for the first 12 months of widowhood, and after that a survivor's pension (based on the standard rate of benefit) is paid up to pension age. The contribution conditions for receiving these benefits are similar to those for the old age pension, based on the contribution record of the deceased spouse/civil partner. The standard rate is adjusted according to the LACF, with the LACF calculated using the date of death instead of the pension age.
- B.10 The qualifying conditions for survivor's pension have been amended so that, subject to a transitional arrangement for existing cases and future potential cases with dates of birth on or before 31 December 1957, from 2013 only those survivors with at least one dependent child will be awarded survivor's pension.
- B.11 For people widowed prior to April 2001, there were two benefits, widow's allowance and widow's pension. These benefits correspond to survivor's allowance and survivor's pension as described above, but were paid to widows only.

Benefits on incapacity

- B.12 If the contribution conditions are met, an incapacity benefit is paid when an insured person is sick or injured. The rules for incapacity benefits have changed for claims on or after 1 October 2004. From this date, the benefits available are short term incapacity allowance, long term incapacity allowance and incapacity pension.



- B.13 Short term incapacity allowance is payable for up to one year, provided the individual has paid at least three months' contributions at any time before the start of the calendar quarter immediately prior to that in which the claim is made. The benefit rate is dependent on the worker's contribution record (allowing for credits) in the calendar quarter ended three months before the start of the quarter in which the claim is made.
- B.14 Once short-term incapacity allowance has ceased, the individual may be eligible for long-term incapacity allowance or incapacity pension, subject to meeting the contribution conditions. The amount of long-term incapacity allowance depends on the extent of the loss of faculty. The recipient of the allowance is permitted to work. Where disablement is assessed at less than 20%, this allowance is paid in lump sum form. Incapacity pension is paid where the individual is unlikely to be able to work again. The amount of the incapacity pension is dependent on the person's contribution record. The standard rate is adjusted according to the LACF in the same way as for old age pension, with contributions deemed to have been paid from the start of the claim up to pension age.
- B.15 For claims prior to October 2004, different benefits were available, i.e. disablement benefit and invalidity benefit (similar to long-term incapacity allowance and incapacity pension, respectively). If these benefits were already in payment at 1 October 2004 they have continued to be paid subject to the same terms.

Family benefits

- B.16 A maternity grant is paid for each birth in Jersey where either the mother or her husband or civil partner has paid contributions for at least three months at any time before the start of the calendar quarter immediately prior to that in which the birth is expected. This is also paid on the adoption of a child. The mother is also entitled to a maternity allowance, for a maximum of 18 weeks, if she satisfies the contribution conditions. These contribution conditions are similar to those for short-term incapacity allowance except that they refer to a contribution period before the beginning of the pregnancy. With effect from 1 January 2015, there is now more flexibility over when payment of maternity allowance can commence.

Bereavement benefits

- B.17 A death grant is paid for all deaths in Jersey where the deceased, the surviving spouse or civil partner or (in the case of a child) a parent has met the contribution conditions. The conditions are that either a contribution was due in the month of death or that the equivalent of one year's contributions has been paid in the past.

Home Carer's Allowance (HCA)

- B.18 With effect from 1 January 2013, the tax-funded Invalid Care Allowance (ICA) was replaced with a contributory (i.e. Social Security Fund) Home Carer's Allowance (HCA), with all existing claimants being transferred automatically to the new benefit but with certain amendments being introduced for future cases.



Insolvency benefit

- B.19 This benefit came into force on 1 December 2012. It provides a benefit to an employee who has lost their job through the insolvency of their employer, and has not been paid all the money owing to them. The benefit covers four components - wages, holiday pay, redundancy payment, and payment in lieu of notice. A maximum of £10,000 can be claimed.

Benefit rates

- B.20 Table B.1 shows the weekly rates of benefit in force from 2014 to 2017.

Table B.1: Weekly benefit rates from 1 October (£ per week)

Year from 1 October	OAP rate ¹¹ - no dependant	OAP rate - with dependant	Standard rate – no dependant	Standard rate - with dependant	Married woman's old age pension	Survivor's allowance
2014	197.40	327.74	196.42	326.06	130.34	235.76
2015	199.99	332.01	199.99	332.01	132.02	240.03
2016	204.19	339.01	204.19	339.01	134.82	245.07
2017	209.93 ¹²	348.53	209.51	347.83	138.60	251.44

Contributions

- B.21 Class 1 contributions are required from everyone on the Island between school leaving age and pension age (currently age 65) who works for an employer for more than eight hours a week, with some exceptions. Employees and employers both pay Class 1 contributions, based on the employee's earnings. Those who do not pay Class 1 contributions pay Class 2 contributions, unless they are exempt.
- B.22 There are some exceptions from the requirement to contribute. In particular, contributions are not required from individuals who have reached pension age and women who were married before 1 April 2001 can "opt out" of paying contributions. In each case, any employer's contributions remain payable.
- B.23 Subject to certain rules, contribution credits are provided for students, the unemployed, the sick, survivors (i.e. people whose spouses or civil partners have died) or those staying at home to care for a child.

¹¹ The OAP rate is the maximum rate paid to those who have paid sufficient contributions. Similarly, for those with sufficient contributions, the standard rate is paid for survivor's pension, short-term incapacity allowance, incapacity pension and maternity allowance. For long-term incapacity allowance, a proportion of the standard rate is payable depending on the extent of the loss of faculty.

¹² The rate of OAP in 2017 is greater than the standard rate because the OAP was increased in line with the RPI (pensioner) index in that year, as discussed in paragraph B.7.



- B.24 Table B.2 shows the earnings limits which applied between 2014 and 2018. Throughout this period the total rate of contributions payable on earnings up to the Standard Earnings Limit (SEL) has been 10.5%¹³, of which 5.2% is paid by the employee and 5.3% by the employer in the case of Class 1. The Class 2 contribution is generally set at 10.5% of the SEL, but the individual can elect (where permitted) to pay lower earnings-related Class 2 contributions.

Table B.2: Earnings limits

Year	Monthly Lower Earnings Limit (LEL) (£)	Monthly Standard Earnings Limit (SEL) (£)	Monthly Upper Earnings Limit (UEL) (£)
2014	824	3,918	12,964
2015	848	4,020	13,302
2016	864	4,094	13,542
2017	884	4,180	13,828
2018	908	4,290	14,188

- B.25 If earnings are above the Lower Earnings Limit (LEL) and below the SEL, the difference between contributions based on actual earnings and contributions based on the SEL is made up through supplementation. The cost of supplementation is met by a States grant and, with effect from 1 January 2012, an additional contribution of 2.0% of earnings between the SEL and the Upper Earnings Limit (UEL) payable by employers and those individuals paying Class 2 contributions.
- B.26 Prior to 2012, the States grant represented each year's exact cost of supplementation. From 2012, it is set in advance by formula for each successive Medium Term Financial Plan (MTFP). Under this formula the States grant equals the cost of supplementation net of the additional 2% contributions between the SEL and UEL two years before the start of each MTFP, increased in line with earnings increases up to each year of the MTFP.
- B.27 However, an exception to this approach has been adopted for the MTFP covering the years 2016 to 2019. For these years, the States grant has been fixed in cash terms at the 2015 level (£65.3 million) for all years. For this report, it is assumed that, in line with current legislation, the States grant will revert to the formula described in paragraph B.26 from 2020.

¹³ This excludes the 2% contribution payable to the Health Insurance Fund.



Appendix C: Fund accounts since 1 January 2016

C.1 The transactions of the Social Security and Social Security (Reserve) Funds in the period 1 January 2016 to 31 December 2017 are summarised in Table C.1, whilst a breakdown of expenditure by benefit is shown in Table C.2.

Table C.1: Summary of income and expenditure and balances of the Jersey Social Security and Social Security (Reserve) Funds in the period 1 January 2016 to 31 December 2017¹⁴; fund balances are shown at market values, as stated in the accounts

£ thousand	2016	2017
<i>Social Security Fund</i>		
Income		
Contribution income	173,014	179,880
States supplementation contributions	65,300	65,300
Investment return	229	196
Investment income transferred from Reserve Fund	-	-
Other income	594	41
Total income	239,137	245,417
Expenditure		
Benefit expenditure	219,094	225,456
Administration expenditure	6,315	5,033
Other expenditure	45	
Total expenditure	225,454	230,489
Balance at start of year	88,472	72,155
Excess of income over expenditure	13,683	14,928
Transfer to Reserve Fund	(30,000)	(15,027)
Balance at end of year	72,155	72,056
<i>Social Security (Reserve) Fund</i>		
Balance at start of year	1,288,338	1,572,038
Expenses	-	-
Transfer to Social Security Fund	-	-
Investment return	253,655	192,529
Other income	45	(1)
Transfer from Social Security Fund	30,000	15,027
Balance at end of year	1,572,038	1,779,592
<i>Combined Funds</i>		
Combined balance at end of year	1,644,193	1,851,648
Mean of funds at start and end of year	1,510,502	1,747,921
Mean of funds as multiple of total expenditure	6.7	7.6
Estimated rate of investment return	18.4%	11.7%

¹⁴ Figures may not sum to totals due to rounding.



- C.2 Contribution income (including that from the States) exceeded expenditure in both 2016 and 2017. Over these two years, the average annual rate of investment return is estimated to have been around 15% a year. The average combined Fund balance as a multiple of annual expenditure increased from 6.2 during 2015 to 7.6 during 2017.

Table C.2: Expenditure on social insurance benefits in the period 1 January 2016 to 31 December 2017

£ thousand	2016	2017
Pensions	172,933	179,421
Short term incapacity allowance	13,402	13,832
Long term incapacity allowance	15,755	16,050
Invalidity benefit	6,631	6,155
Survivor's benefits	4,475	4,199
Maternity allowance	2,751	2,620
Maternity and adoption grant	573	570
Home carer's allowance	1,886	1,970
Insolvency benefit	106	54
Death grant	582	585
Total benefit expenditure¹⁵	219,094	225,456

¹⁵ As shown in Table C.1.



C.3 A summary of the assets held of the Social Security Fund and the Social Security (Reserve) Fund as at 31 December 2017 is given in Table C.3.

Table C.3: Summary of the market value of the assets of the Social Security Fund and Social Security (Reserve) Fund as at 31 December 2017

	Social Security Fund		Social Security (Reserve) Fund	
	£million	%	£million	%
CIF investments				
Equity class assets	-	-	1,207.6	68
Fixed income class assets	-	-	211.5	12
Absolute return class assets	-	-	193.1	11
Property class assets	-	-	60.1	3
Opportunities class assets	-	-	20.8	1
Cash class assets	-	-	89.9	5
Cash	30.6	42	-	-
Net debtors	33.6	47	(3.5)	(0)
Fixed assets	7.8	11	-	-
Total	72.1	100	1,779.6	100



Appendix D: Summary of data

D.1 A summary of the 2016 and 2017 membership data supplied for this actuarial review is set out below (less material benefit counts have been excluded), together with the corresponding figures for 2015 provided for the previous review.

Table D.1: Summary of the average number of contributors for the years 2016 and 2017

Contribution class	2015	2016	2017
Men – Class 1 ¹⁶	24,350	24,636	24,767
Men – Secondary only	511	553	610
Men – Class 2 ¹⁷	3,270	3,401	3,396
Women – Class 1	21,060	21,485	21,794
Women – Secondary only	2,666	2,542	2,424
Women – Class 2	744	834	872

¹⁶ These numbers include those who, in the period concerned, are recorded as paying Class 1 and receiving contribution credits.

¹⁷ These numbers include those who, in addition to paying Class 2, are also recorded as paying Class 1 and/or receiving credits in the period concerned.



Table D.2: Summary of the number of beneficiaries for the years 2016 and 2017

	2015	2016	2017
Old age pensions ¹⁸ :			
Men	12,788	13,165	13,431
Women – pension based on husband's contributions	5,572	5,520	5,663
Women – pension based on own contributions	7,192	7,367	7,654
Widows – pension based on deceased husband's contributions	4,465	4,709	4,503
Incapacity benefits ¹⁹ :			
Short-term incapacity allowance – men	803	897	865
Short-term incapacity allowance – women	594	680	635
Long-term incapacity allowance (LTIA) – men	1,350	1,332	1,360
LTIA – women	1,140	1,196	1,271
Lump sum awards of LTIA – men	257	260	200
Lump sum awards of LTIA – women	166	163	142
Disablement benefit – men	475	456	442
Disablement benefit – women	130	125	126
Invalidity benefit – men	277	244	224
Invalidity benefit – women	351	320	296
Survivor benefits ¹⁸ :			
Survivor's allowance and pension – men	123	114	105
Survivor's allowance and pension – women	665	633	596

¹⁸ These are numbers in receipt of the benefit mid-year.

¹⁹ These are numbers in receipt of the benefit at the period end, except in the case of lump sum awards of long-term incapacity allowance (these are the number of awards made during the course of the period)



Appendix E: Demographic background

- E.1 The population projections adopted for this review are those prepared by Statistics Jersey for their 2016 release of the population projections for the island. These are an update of the 2013 projections that we used for the actuarial review of the SSF as at 31 December 2015.
- E.2 The 2013 projections used as an initial baseline the population figures from the 2011 census rolled forward to year-end 2013 in line with estimated actual births, deaths and migration over that period. The 2016 release builds on this but rolls forward to 2015 using data on actual population movements. From 2016, the model projects the population year by year, by adding births, subtracting deaths, and adjusting for inward and outward migration.
- E.3 There are consequently three main assumptions that are needed for the future:
- > rates of mortality
 - > fertility rates
 - > migration
- E.4 These assumptions were determined by Statistics Jersey and are discussed below.

Rates of mortality

- E.5 The assumed rate of mortality in Jersey was based on the projected mortality rates for England in the 2014-based population projections for the United Kingdom, published by the Office for National Statistics (ONS). These English mortality rates were however adjusted in order to reflect better the specific experience in Jersey. The adjustment factors applied are shown in the following table.

Table E.1: Ratio of the assumed mortality rates for Jersey to the corresponding rates for England (based on the 2014 UK population projections)

Age group	Men	Women
0 to 15	100%	100%
16 to 59	100%	90%
60 to 74	95%	90%
75 and over	95%	95%

- E.6 Rates below 100% in this table indicate that individuals in these age groups in Jersey are assumed to experience lower rates of mortality than their counterparts in England. Therefore, for example, someone in Jersey aged 60 is assumed to have a longer life expectancy than someone aged 60 in England.
- E.7 The mortality rates make a significant allowance for future improvements in life expectancy, in line with those assumed by ONS.



- E.8 The same approach was adopted for the 2013 projections, except that they used the ONS's 2010-based (rather than the 2014-based) population projections for England.
- E.9 The life expectancies at age 67 implied by the mortality rates used for the 2016 release of the population projections are shown in Table E.2, according to the year in which the person attains age 67. For comparison, the table also shows the corresponding figures based on the assumptions adopted for the 2013 Jersey projections. The life expectancy at age 67 is generally more important for social security schemes than the life expectancy at birth because such schemes are primarily concerned with the payment of pensions to those in old age. (The use of age 67 in this context anticipates the agreed policy to increase pension age to 67 by 2031.)

Table E.2: Approximate life expectancy at age 67 based on the assumptions adopted for the 2016 release of the population projections, with the corresponding figures for the 2013 projections shown in brackets²⁰

Year in which attain age 67	2017	2037	2057
Life expectancy at age 67 in years			
Men	20.4 (20.5)	22.6 (22.7)	24.7 (25.1)
Women	22.7 (23.0)	24.7 (25.2)	26.7 (27.4)

- E.10 As noted above, the 2016 Jersey population projections have been based on ONS's 2014-based population projections. ONS has now issued its 2016-based projections, which incorporate allowance for slower improvements in future mortality. If these had been adopted, they would have led to lower life expectancies than those in the table above and in turn also to lower expenditure on the old age pension than shown by this review. However, it is unlikely that this would change the main conclusions described in this report, which is that the Fund balance is expected to remain positive during the projection period under most of the scenarios considered.

Fertility rates

- E.11 The fertility rate relates to the number of children born to each woman. In order to reproduce itself over the long-term, ignoring migration, a population needs a total fertility rate of about 2.1, that is, 2.1 children born per woman. This is greater than 2 because of the need to offset the effect of women who die before completing their reproductive life cycle.

²⁰ These are "cohort" life expectancy figures, which means that they allow for the projected rate of mortality in future years; for example, the life expectancy for someone who reaches age 67 in 2017 reflects the mortality rate at age 67 in 2017, at age 68 in 2018, at age 69 in 2019 etc.



- E.12 Having regard to recent experience on the number of births in Jersey, it was assumed for the 2016 population projections that the total fertility rate would be 1.55 in all future years, which is slightly lower than the assumption of 1.57 used for the 2013 projections. This is significantly lower than the rate in the UK; for example, the ONS central projections for England and Wales assumed that the total fertility rate in the long-term will average 1.90 for 2014-based projections and 1.85 for the 2016-based projections.

Migration

- E.13 Migration to and from Jersey is particularly difficult to predict and it is for this reason that we have prepared results for the review of the Fund on three different migration assumptions, as agreed with the Social Security Department. The three assumptions are:

- > net inward migration of 325 people a year for all years from 2016
- > net inward migration of 700 people a year for all years from 2016
- > net inward migration of 1,000 people a year for all years from 2016

- E.14 These are the same assumptions as were adopted for the 2015 actuarial review of the Fund, except that in that case we used an assumption of inward migration of 350 a year instead of 325 a year.

- E.15 For comparison, according to Statistics Jersey's 2017 estimate of the resident population²¹, net inward migration has averaged 1,080 a year over the five years 2013 to 2017, and 880 a year over the ten years 2008 to 2017.

- E.16 The assumptions about inward and outward migration cover three aspects:

- > the number of people migrating,
- > the ages of such migrants, and
- > the sex of such migrants.

Projected population numbers

- E.17 Summaries of the projected population of Jersey by age and sex are shown at the end of this appendix. In addition to the population numbers, the tables also show the "pensioner support ratio" (PSR), which is defined as the number of people of working age per person over pension age. The PSR does not allow for overseas pensioners. It does, however, allow for the agreed policy to increase pension age, to 67 by 2031.

²¹ See

<https://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20Population%20Estimate%20Current%2020180620%20SU.pdf>



- E.18 The PSR is particularly relevant to social security systems that are financed on a pay-as-you-go basis. This is because, under this financing system, income from current contributors is expected to cover the current benefit and administration expenditure. Therefore, the greater the number of people of working age for each person who has reached pension age, the lower the required contribution rate (other things being equal).
- E.19 The projected pattern of the PSR over the period up to 2075 is shown in Figure E.1. With allowance for future net migration of +325 a year, the PSR is projected to fall from the current level of just under 4 to around 2.6 in 2040 and then a more gradual decrease to around 2.3 over the rest of the projection period. Other things being equal, this would suggest that the pay-as-you-go contribution rate (in respect of old age pensions) would broadly have to increase by half by 2050. With allowance for inward migration of 700 people and 1,000 people each year, the fall in the PSR is slightly less dramatic, falling to around 2.9 or 3.1 in 2040 and then decreasing steadily to around 2.6 and 2.8 by the end of the projection period.



Figure E.1: Pensioner support ratio (that is, the number of people of working age for each person over pension age)

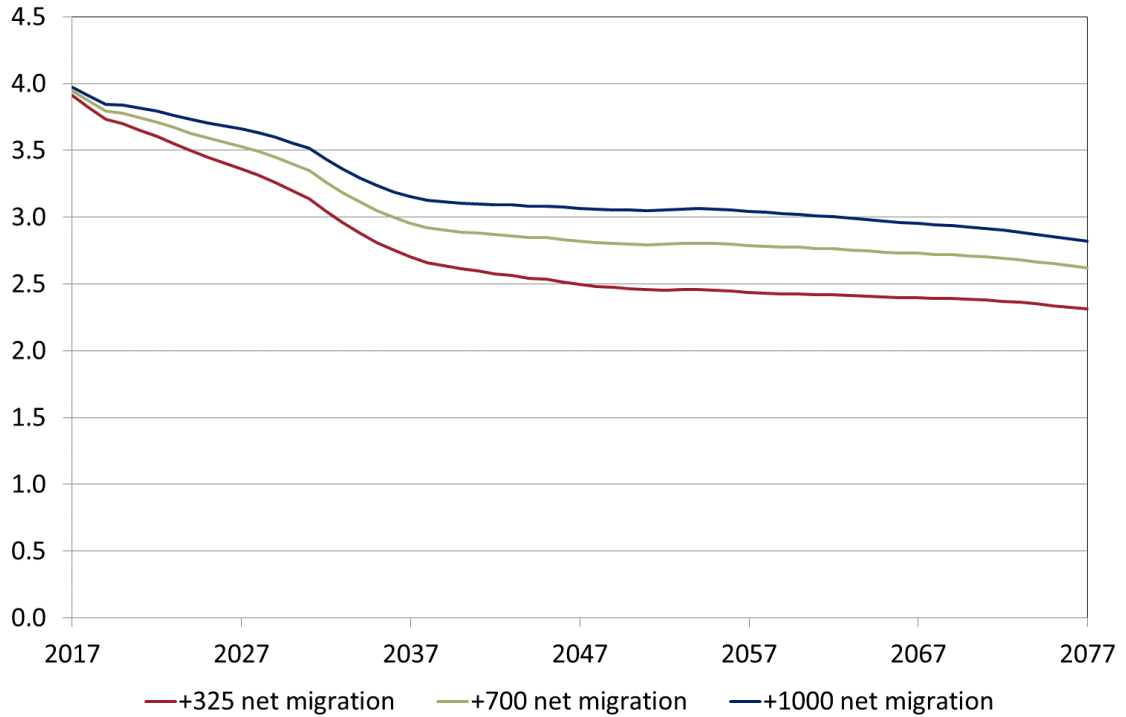




Table E.3: The projected population of Jersey at the year end from 2017 to 2077 assuming net future immigration of 325 people each year and the fertility and mortality assumptions described above

	2017	2022	2027	2037	2047	2057	2067	2077
Males								
0-9	5,518	5,430	5,416	5,434	5,608	5,637	5,643	5,721
10-19	5,659	5,958	6,045	5,981	6,006	6,171	6,202	6,211
20-29	6,361	6,216	6,190	6,509	6,440	6,458	6,611	6,643
30-39	7,296	7,245	7,323	7,139	7,420	7,352	7,370	7,520
40-49	7,829	7,562	7,532	7,662	7,503	7,780	7,726	7,754
50-59	7,815	8,030	7,471	7,254	7,455	7,332	7,614	7,579
60-69	5,570	6,204	7,068	6,789	6,658	6,912	6,835	7,131
70-79	3,542	4,187	4,625	5,989	5,810	5,788	6,097	6,089
80 and over	1,929	2,267	2,839	4,080	5,659	6,311	6,681	7,377
Total	51,519	53,100	54,509	56,838	58,558	59,742	60,778	62,027
Females								
0-9	5,501	5,383	5,373	5,391	5,565	5,594	5,600	5,678
10-19	5,535	5,911	6,020	5,929	5,953	6,119	6,149	6,158
20-29	6,151	5,992	6,132	6,536	6,440	6,457	6,610	6,642
30-39	7,092	6,947	6,917	6,887	7,253	7,161	7,177	7,325
40-49	7,564	7,255	7,095	7,048	7,036	7,392	7,312	7,334
50-59	7,952	7,984	7,250	6,860	6,889	6,896	7,250	7,184
60-69	5,805	6,494	7,337	6,716	6,402	6,484	6,517	6,873
70-79	3,966	4,626	5,081	6,494	5,984	5,765	5,903	5,978
80 and over	2,818	3,117	3,738	5,149	6,957	7,496	7,601	8,042
Total	52,384	53,708	54,944	57,011	58,478	59,364	60,118	61,214
Persons								
0-9	11,019	10,813	10,789	10,825	11,173	11,230	11,243	11,399
10-19	11,194	11,869	12,065	11,911	11,959	12,289	12,351	12,369
20-29	12,512	12,208	12,322	13,045	12,879	12,915	13,221	13,285
30-39	14,388	14,192	14,240	14,027	14,674	14,513	14,547	14,845
40-49	15,392	14,817	14,627	14,710	14,539	15,173	15,038	15,088
50-59	15,767	16,015	14,721	14,114	14,344	14,228	14,865	14,764
60-69	11,375	12,698	14,406	13,505	13,060	13,396	13,351	14,004
70-79	7,508	8,813	9,706	12,483	11,793	11,553	12,000	12,067
80 and over	4,748	5,384	6,577	9,230	12,615	13,807	14,282	15,419
Total	103,903	106,808	109,453	113,848	117,037	119,105	120,897	123,241
Persons								
0-15	17,664	18,003	17,874	17,830	18,256	18,525	18,531	18,716
16-pen age ²² (W)	68,676	69,516	70,588	70,092	70,543	71,311	72,228	72,974
Pen age + (P)	17,563	19,289	20,991	25,927	28,238	29,269	30,137	31,551
Total	103,903	106,808	109,453	113,848	117,037	119,105	120,897	123,241
PSR (=W/P)	3.9	3.6	3.4	2.7	2.5	2.4	2.4	2.3

²² Pension age is due to increase from 65 to 67 over the period from 2020 to 2031.



Table E.4: The projected population of Jersey at the year end from 2017 to 2077 assuming net future immigration of 700 people each year and the fertility and mortality assumptions described above

	2017	2022	2027	2037	2047	2057	2067	2077
Males								
0-9	5,555	5,613	5,770	6,094	6,547	6,871	7,164	7,510
10-19	5,688	6,103	6,338	6,602	6,943	7,402	7,742	8,052
20-29	6,466	6,493	6,596	7,234	7,523	7,881	8,347	8,703
30-39	7,416	7,666	8,024	8,228	8,886	9,221	9,617	10,117
40-49	7,898	7,838	8,046	8,717	8,948	9,610	9,965	10,380
50-59	7,845	8,159	7,728	7,888	8,580	8,822	9,472	9,833
60-69	5,579	6,248	7,162	7,063	7,258	7,952	8,209	8,850
70-79	3,544	4,194	4,643	6,067	6,032	6,287	6,981	7,275
80 and over	1,930	2,269	2,844	4,097	5,721	6,500	7,139	8,269
Total	51,921	54,583	57,150	61,991	66,440	70,546	74,636	78,988
Females								
0-9	5,538	5,564	5,724	6,048	6,501	6,824	7,117	7,463
10-19	5,564	6,059	6,317	6,554	6,895	7,355	7,695	8,004
20-29	6,265	6,290	6,564	7,296	7,563	7,923	8,392	8,751
30-39	7,182	7,282	7,514	7,857	8,589	8,888	9,273	9,760
40-49	7,613	7,441	7,447	7,855	8,199	8,915	9,220	9,606
50-59	7,979	8,086	7,442	7,318	7,763	8,106	8,804	9,110
60-69	5,812	6,524	7,407	6,919	6,838	7,298	7,641	8,321
70-79	3,967	4,631	5,095	6,554	6,156	6,140	6,617	6,976
80 and over	2,820	3,122	3,747	5,169	7,017	7,663	7,985	8,822
Total	52,739	54,999	57,256	61,572	65,521	69,111	72,743	76,814
Persons								
0-9	11,093	11,176	11,494	12,143	13,048	13,694	14,281	14,974
10-19	11,251	12,162	12,654	13,157	13,838	14,757	15,437	16,056
20-29	12,731	12,783	13,161	14,530	15,086	15,804	16,739	17,454
30-39	14,598	14,948	15,538	16,085	17,475	18,110	18,890	19,877
40-49	15,511	15,279	15,493	16,572	17,148	18,525	19,185	19,986
50-59	15,824	16,245	15,170	15,206	16,343	16,928	18,276	18,943
60-69	11,391	12,771	14,569	13,982	14,096	15,250	15,851	17,171
70-79	7,511	8,825	9,738	12,621	12,188	12,427	13,598	14,250
80 and over	4,750	5,392	6,591	9,267	12,739	14,162	15,123	17,091
Total	104,660	109,582	114,407	123,562	131,962	139,657	147,379	155,802
Persons								
0-15	17,777	18,568	18,955	19,916	21,266	22,474	23,423	24,498
16-pen age ²³ (W)	69,310	71,685	74,379	77,449	81,715	86,242	90,719	95,059
Pen age and over (P)	17,573	19,329	21,072	26,197	28,981	30,942	33,237	36,246
Total	104,660	109,582	114,407	123,562	131,962	139,657	147,379	155,802
PSR (=W/P)	3.9	3.7	3.5	3.0	2.8	2.8	2.7	2.6

²³ Pension age is due to increase from 65 to 67 over the period from 2020 to 2031.



Table E.5: The projected population of Jersey at the year end from 2017 to 2077 assuming net future immigration of 1,000 people each year and the fertility and mortality assumptions described above

	2017	2022	2027	2037	2047	2057	2067	2077
Males								
0-9	5,585	5,759	6,052	6,622	7,299	7,857	8,380	8,942
10-19	5,711	6,220	6,572	7,098	7,692	8,387	8,973	9,522
20-29	6,550	6,715	6,921	7,814	8,390	9,018	9,735	10,350
30-39	7,512	8,003	8,585	9,099	10,060	10,717	11,415	12,195
40-49	7,953	8,058	8,457	9,562	10,106	11,075	11,758	12,481
50-59	7,869	8,261	7,934	8,396	9,481	10,015	10,959	11,636
60-69	5,587	6,282	7,237	7,282	7,739	8,785	9,310	10,226
70-79	3,545	4,200	4,658	6,129	6,210	6,687	7,688	8,223
80 and over	1,931	2,272	2,848	4,111	5,771	6,650	7,505	8,983
Total	52,243	55,770	59,263	66,114	72,747	79,190	85,723	92,558
Females								
0-9	5,567	5,709	6,005	6,574	7,249	7,807	8,329	8,891
10-19	5,586	6,177	6,554	7,054	7,647	8,343	8,930	9,479
20-29	6,356	6,528	6,910	7,905	8,461	9,095	9,817	10,437
30-39	7,255	7,550	7,992	8,633	9,658	10,271	10,949	11,709
40-49	7,652	7,590	7,728	8,500	9,131	10,134	10,747	11,424
50-59	8,001	8,168	7,596	7,685	8,463	9,075	10,048	10,651
60-69	5,817	6,548	7,463	7,082	7,187	7,949	8,541	9,481
70-79	3,969	4,636	5,105	6,603	6,293	6,440	7,189	7,775
80 and over	2,821	3,127	3,754	5,186	7,066	7,796	8,292	9,445
Total	53,024	56,032	59,106	65,220	71,156	76,910	82,842	89,293
Persons								
0-9	11,151	11,467	12,057	13,196	14,548	15,664	16,709	17,832
10-19	11,297	12,397	13,126	14,152	15,339	16,730	17,903	19,002
20-29	12,906	13,243	13,831	15,719	16,852	18,113	19,553	20,787
30-39	14,767	15,553	16,576	17,732	19,718	20,988	22,364	23,904
40-49	15,605	15,648	16,185	18,062	19,236	21,209	22,505	23,905
50-59	15,870	16,429	15,530	16,081	17,943	19,090	21,007	22,287
60-69	11,404	12,830	14,699	14,364	14,926	16,734	17,852	19,707
70-79	7,513	8,835	9,763	12,732	12,503	13,126	14,877	15,999
80 and over	4,752	5,398	6,602	9,296	12,837	14,447	15,797	18,429
Total	105,266	111,801	118,370	131,334	143,903	156,100	168,565	181,851
Persons								
0-15	17,867	19,020	19,820	21,583	23,673	25,631	27,332	29,119
16-pen age ²⁴ (W)	69,818	73,420	77,413	83,338	90,655	98,189	105,515	112,727
Pen age and over (P)	17,582	19,361	21,137	26,413	29,576	32,281	35,718	40,005
Total	105,266	111,801	118,370	131,334	143,903	156,100	168,565	181,851
PSR (=W/P)	4.0	3.8	3.7	3.2	3.1	3.0	3.0	2.8

²⁴ Pension age is due to increase from 65 to 67 over the period from 2020 to 2031.



Appendix F: Methodology and technical assumptions

- F.1 The calculations for this review involve projecting contribution income, benefit expenditure and administration expenses over the 60 years from 2017 to 2077. Two main sets of results are presented in this report:
- > The projected “break-even” contribution rates
 - > The combined balances in the Social Security and Social Security (Reserve) Funds (“the Funds”), as a multiple of expenditure, assuming that the current rates of contribution remain unchanged
- F.2 The break-even contribution rates are the rates that would be required in order for contribution income to equal expenditure on benefits and administration costs. For this purpose it is assumed that supplementation continues to be calculated as at present. In particular, the States grant and the 2% contribution on earnings between the Standard Earnings Limit (SEL) and Upper Earnings Limit (UEL) payable by employers and those individuals paying Class 2 contributions will continue to be calculated as at present (see paragraph B.25).
- F.3 The break-even contribution rates are the contribution rates that would be required if the Fund were following the pay-as-you-go financing approach. One of the main factors likely to cause significant changes in these break-even rates in the future is the change in the relative numbers of contributors and pensioners. These factors are mainly demographic but also include social and economic factors such as changes in the proportion of women working and the rate of unemployment.
- F.4 In projecting the future combined balance in the Funds, as a multiple of annual expenditure, it is assumed that the current contribution rates continue to apply in all future years. While projections of fund balances are subject to a great deal of uncertainty, these results give an indication as to the extent to which the build-up of assets in the Reserve Fund can be used to delay increases to contribution rates which would otherwise be required. If no fund of assets had been built up, the contribution rate would need to follow the break-even rates.
- F.5 Where results are given as monetary values, they are shown in constant 2017 earnings terms. This is a convenient approach because it is assumed that all benefit rates and contribution limits increase in the future in line with earnings (see F.70 below).

Assumptions

- F.6 In order to make projections of future income and expenditure, it is necessary to make a large number of assumptions about likely future experience. Some of the key assumptions relate to future changes in the population, which is discussed in Appendix E of this report. The other assumptions mainly relate to the numbers of beneficiaries and contributors, the average level of benefits payable and the average earnings of contributors.



- F.7 A summary of the central assumptions adopted for this review, together with a brief explanation of how they were determined is given below. We have referred to these assumptions collectively as the “central assumptions” (as opposed to the variant assumptions considered in Section 5). We have set the central assumptions (apart from the population projections) in order to represent best estimates of the future experience of the Fund, and therefore they do not incorporate any margins for optimism or pessimism, except where stated otherwise. The population projections were specified by the States and include three migration scenarios.
- F.8 The assumptions that have the most impact on the results of the review are those relating to population projections, contributor numbers and old age pension, and, in the case of the projection of the Fund balance, the rate of investment return.
- F.9 The results of the review are sensitive to the assumptions adopted. Although the central assumptions as a whole are considered to form a reasonable basis for the review, in practice, it is not possible to predict the future with certainty and therefore the Fund's future experience may differ from that assumed. It is therefore important to consider how the results of the review would change if experience followed a different set of assumptions and this is illustrated in Section 5 of this report.

Population projections

- F.10 The population projections adopted for this review are those prepared by Jersey Statistics, as summarised in the 2016 release of their population projections. Future expenditure has been calculated on the basis of three different population projections with differing migration assumptions:
- > net inward migration of 325 people a year for all years from 2016
 - > net inward migration of 700 people a year for all years from 2016
 - > net inward migration of 1,000 people a year for all years from 2016
- F.11 Appendix E contains further details on this, and on the method and assumptions used in the population projections.
- F.12 Data from Statistics Jersey indicates that immigration has averaged around 1,300 people a year over the three years 2015 to 2017, although, in the earlier period from 2001 to 2014, immigration averaged around 650 people a year²⁵. We understand that future migration policy is currently under review and this means there may be significant uncertainty over the level of migration expected in future.

²⁵ See

<https://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20Population%20Estimate%20Current%2020180620%20SU.pdf>



Contribution income

- F.13 The projected numbers of contributors in future years have been obtained by applying assumed proportions of men and women contributing at each age in the different contribution classes to the projected numbers in the population. These proportions were derived from statistics on the number of contributors in past years. The analysis was made on the basis of the average position throughout the year, and thus allows for the average number of seasonal workers who contribute.
- F.14 Consistent with the approach at the previous review, the assumed proportion of the population that contributes has generally been based on the average proportions (for each age and gender group) experienced in the six years 2012 to 2017. However, for both men and women, there is some evidence in the data that the proportions of the population paying contributions is increasing at ages 50 and above. Therefore, the proportions contributing in these age groups have been taken as the proportion in 2017, which therefore fully reflects any increase seen up to that year.
- F.15 It is possible that the proportions contributing will vary in response to changing economic and labour conditions. For example, there could be a further increase in the proportions contributing at older ages. However, given the very significant uncertainties inherent in how the labour market might develop, we have generally assumed that the age and gender specific proportions will not vary in future years. However, specific allowance is made for the increase in pension age to 67 by 2031, by assuming that:
- > participation rates are unchanged for ages up to 62
 - > rates at the two ages immediately below the new pension age are equal to the initial rates at ages 63 and 64
 - > rates at ages between 62 and two years below the new pension age are equal to the initial rate at age 62
- This is a refinement of the approach at the previous review and will produce slightly higher participation rates at the ages immediately below pension age.
- F.16 We have also made allowance for two transitional effects for women. These are:
- > the increase in pension age from 60 for women who were first insured before 1 January 1975 to 65 for later members; this is in addition to allowing for the subsequent increase to age 67 mentioned in paragraph F.15
 - > the gradual run-off of the group of women who were married before 1 April 2001 and who have elected not to pay contributions; as these women leave the labour force, they are assumed to be replaced by women who pay the full rate of contributions
- F.17 A summary of the proportions of the population that are assumed to contribute in 2018 is given in the following table (excluding those for whom employer contributions only are paid). For comparison, the corresponding proportions assumed for the 2015 review are shown in brackets.



Table F.1: Summary of the proportion of the male and female populations assumed to be paying Class 1 or Class 2 contributions in 2018, with the equivalent figures from the 2015 review in brackets (based on the +700 net migration population projections)²⁶

Age group	Men	Men	Women	Women
	Class 1	Class 2	Class 1	Class 2
15 to 29	64% (67%)	1% (1%)	61% (63%)	1% (1%)
30 to 39	86% (88%)	6% (6%)	77% (77%)	2% (2%)
40 to 49	75% (75%)	13% (13%)	72% (71%)	3% (3%)
50 to 59	67% (64%)	19% (19%)	57% (55%)	4% (3%)
60 to 69	21% (21%)	8% (8%)	12% (10%)	1% (0%)

- F.18 In general, the proportions are broadly similar to those applied at the 2015 review. The most significant changes are a reduction in the proportion of population paying Class 1 contributions in the 15 to 29 and 30 to 39 age groups, and an increase in the proportion contributing at ages 50 and above. These changes are a consequence of the latest data received on contributor numbers. In particular, the data indicated that the proportion of younger men, and to a lesser extent younger women, who pay Class 1 contributions has been declining over recent years.
- F.19 These proportions will vary in future years. In particular, the proportions will increase for the 60 to 69 age group as a result of the increases to pension age. Also, the proportions of women at age 40 and above who pay Class 1 contributions will increase. This reflects the run-off of the group of women who were married before 1 April 2001 who have elected to pay no contributions and their replacement by women paying full Class 1 contributions²⁷.
- F.20 The following two charts show the proportion of the working age population²⁸ that is assumed to pay Class 1 and Class 2 contributions, by gender, over the projection period, based on the +700 net migration scenario. For comparison, the equivalent figures are shown for the 2015 review, also based on +700 net migration considered at that review. The proportions will vary slightly under the different migration scenarios since it will change the age and gender profile of the population.

²⁶ Although the proportions for each age and gender are the same for each migration scenario, the figures in the table may differ slightly for the other migration assumptions as this will change the age profile within each age group.

²⁷ In contrast, women under age 40 in 2017 generally already pay full Class 1 contributions because they were married after April 2001.

²⁸ For this purpose the working age population is defined as being from age 15 to 64 in 2019 and before, and rising to 66 in 2031 and later.



Figure F.1: Proportion of the working age population assumed to pay Class 1 contributions, based on the +700 net migration scenario, with the equivalent figures from the 2015 review

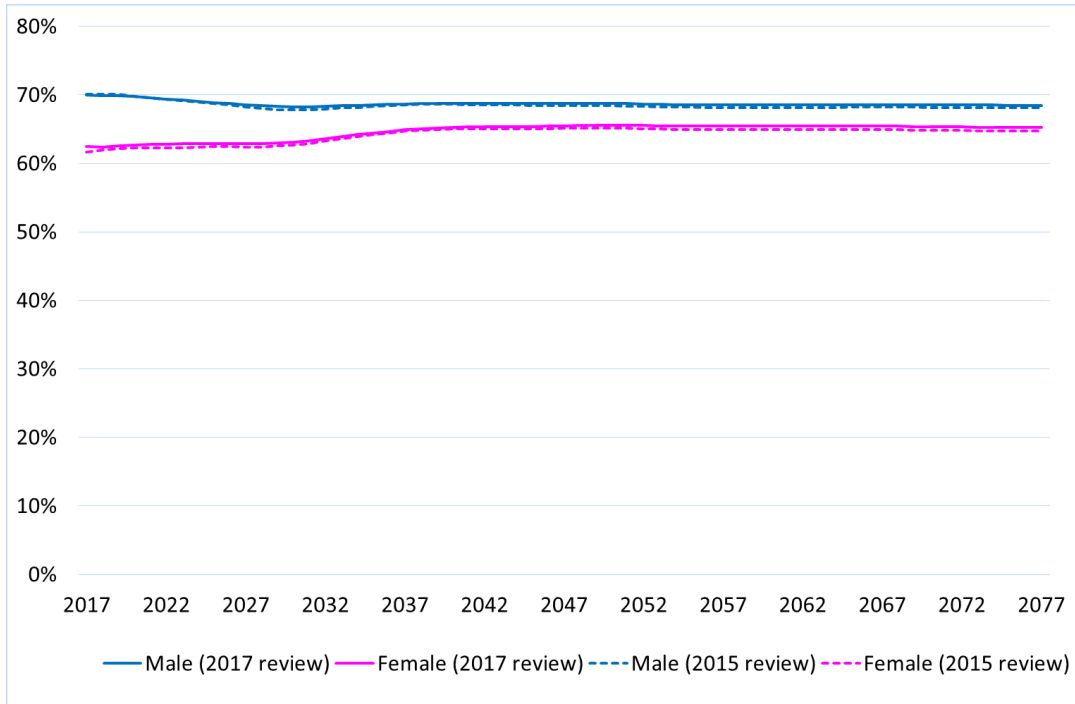
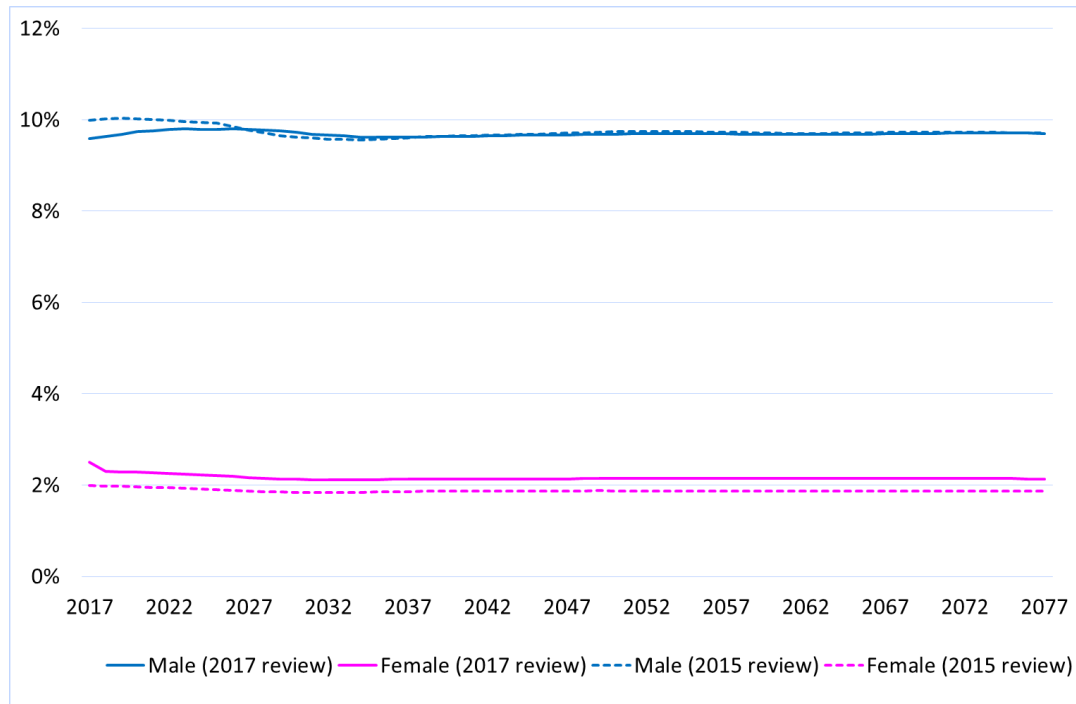




Figure F.2: Proportion of the working age population assumed to pay Class 2 contributions, based on the +700 net migration scenario, with the equivalent figures from the 2015 review



- F.21 The proportion of the workforce projected to be contributing for the 2017 review is therefore similar to that projected for the 2015 review. There is a small increase in the proportion of men and women assumed to pay Class 1 contributions, which is the net effect of lower participation at some younger ages and higher participation at older ages. There is little change in the proportion of men assumed to pay Class 2 contributions, but a small increase in the proportion of women assumed to pay these contributions.
- F.22 Future contribution income was projected by combining the future numbers of contributors, estimated in line with the approach described above, with distributions of earnings levels by age and sex, based on data for 2017. Allowance was made for the effect of the contribution limits. The emerging contribution cash-flow was aligned with 2017 contribution information provided by the Social Security Department.



Old age pension (OAP)

- F.23 Old age pension currently represents about 80% of the benefit expenditure from the Fund and therefore the assumptions for projecting OAP expenditure have much greater impact on the projections than those adopted for other benefits.
- F.24 The projected expenditure on old age pensions was obtained by applying factors to the age and sex specific projected numbers in the population over pension age in future years and to the standard rate of pension. These factors represent the proportion of the resident population that qualifies for a pension multiplied by the average pension as a proportion of the standard pension rate²⁹.
- F.25 The factors include allowance for both the number of residents and non-residents over pension age who will be entitled to, and who will claim, an old age pension. The factors are applied to the numbers of the resident population only and therefore it is possible for the average factors to be in excess of one (100%).
- F.26 In the case of women, separate factors are applied in respect of females claiming a pension on the basis of their husband's contribution record, women claiming a pension on the basis of their own contribution record, and widows claiming a pension on the basis of their deceased husband's contribution record.
- F.27 In order to derive the required factors, we have generally adopted the same approach as used at the 2015 review, except that we have made some refinements and simplifications where appropriate.
- F.28 In broad terms the approach is to combine the data provided on the contribution records, up to the end of 2017, with a projection of expected future contribution records based on projected contributor numbers. This has been done for each population projection variant. This has then been used to derive the expected pension that will be awarded at pension age as proportion of the standard rate of pension and the resident population at that age.

Men

- F.29 The data on pensions in payment in 2017 for male pensioners aged 65 in 2017 corresponded to a factor (as defined in paragraph F.24) of 83%: 138% of locally resident males aged 65 received a pension and the average pension was 60% of the standard pension rate, $138\% \times 60\% = 83\%$. The average for male pensioners aged 65 over the six years 2012 to 2017 was 84% based on the data provided on pensions in payment. This compares with a projected figure of around 94% for the early years of the projection based on the method outlined above in paragraph F.28. The same effect, whereby actual experience indicated lower amounts of pension came into payment than expected, was noted at both the 2012 and 2015 reviews. This might suggest that our method is tending to overstate the pension factor (and therefore to overstate the projected cost of old age pensions).

²⁹ For example, if the proportion of the population that qualifies for a pension is 90% and the average pension they receive is 80% of the standard rate, the factor would be $0.9 \times 0.8 = 72\%$.



- F.30 One explanation of this discrepancy is that our model assumes that all pension contributions will in due course generate a pension benefit (but allowing for deaths before pension age). In practice, this may not be true: for example, contributions may not be converted to pension if the individual has not met the minimum contribution requirement (having regard to any reciprocal social security arrangements) or if they do not claim their pension entitlement from Jersey. The data on past contribution records at the end of 2017 may also include individuals that died before the review date, particularly for those who have left the island. We do not have sufficient data to analyse these possible effects.
- F.31 At the 2012 and 2015 reviews, we did not apply any reduction to our modelled factors to reflect that not all contributions may be converted to pension. This issue was discussed with the Social Security Department at that time, and given the uncertainties the Department requested that no reduction should be applied. However, as noted in paragraph F.29, the discrepancy between our modelled factors and emerging experience has persisted. Therefore, for this review, we consider that it is appropriate to make an adjustment to allow for not all contributions being converted to pension. For this purpose, we have multiplied our modelled factors by 0.95, which accounts for about half of the difference between the unadjusted modelled factors and the factors implied by recent data. In order to illustrate the broad impact of adopting different old age pension factors, we have also produced projections assuming that expenditure on old age pension is 10% higher or lower than under the assumptions described above.
- F.32 Based on the above approach, the long-term modelled factors for men are as in the following table. Allowance is made for claiming an old age pension early, assuming that 45% of pensions are drawn two years before pension age and a further 10% is drawn one year before pension age. This is the same approach as for the 2015 review, except that the assumption on the proportion of pensions drawn one year early has been increased from 5% to 10%, which better reflects recent experience as shown in the data received.

Table F.2: Long-term old age pension factors at pension age for men, 2017 review and 2015 review

	2017 review	2015 review
+325 migration	82%	85%
+700 migration	80%	83%
+1,000 migration	78%	81%

- F.33 The factors are lower than assumed for the 2015 review, mainly because of the 0.95 adjustment applied in the 2017 review.



- F.34 It can be noted that the long-term factors for the +700 and +1,000 migration scenarios are lower than the initial factor at pension age (83%, as noted in paragraph F.29). While we do not have sufficiently detailed data to analyse the reasons for this, this effect is likely to reflect that future assumed net inward migration is greater than historic net inward migration, which changes the balance between the non-resident population and the resident population. This is significant because the factors are expressed as a proportion of the resident population only. Furthermore, migrants are likely to have shorter contribution records and therefore a higher level of immigration would be expected to lead to a lower factor.
- F.35 Table F.2 also indicates that the average factors reduce with increasing assumed levels of future migration. This is for the same reasons as described in paragraph F.34.
- F.36 Finally, an allowance is made for a proportion of male recipients to qualify for a supplement in respect of their wife, principally at ages up to 70. This is based on the proportion of men who qualify for such a supplement in 2017, as shown in the data. However, these increases are only paid in respect of pre-April 2001 marriages and therefore an adjustment is made to allow this proportion to gradually reduce over time, so that by 2050 no new OAP awards qualify for this supplement.

Women

- F.37 The derivation of the required factors is more complicated for women. This is largely because women currently have greater scope for qualifying for pension than men do: women can be entitled to an OAP from their own, or from their husband's or deceased husband's contribution records. Therefore, we calculate separate factors (as defined in paragraph F.24) in respect of each group (in each case expressed as a percentage of the resident female population). The ability to draw a pension on the husband's or deceased husband's contributions is gradually being withdrawn in most circumstances and therefore in the long-term women are assumed only to receive OAP awards based on their own contribution history.
- F.38 The factors used to assess the cost of pensions for women who qualify on the basis of their husband's or deceased husband's contributions were calculated using the same approach as for the 2015 review. This involved taking a percentage of the factors assumed for men, with the percentage being derived using actual data for 2017, the latest available year.
- F.39 However, the provisions allowing a woman to draw an old age pension based on their husband's or deceased husband's contributions are being phased out. It is important to take this into account in the projections, although due to the complexity of the arrangements it has been necessary to take a simplified approach. In particular:
- > We allowed for the gradual run off of cases where a married woman receives a pension based on their husband's contributions, since this only applies if they were married before April 2001; this means that from around 2050, there are no further awards of pension based on the husband's contributions



- > Similarly, the number of recipients of a widow's OAP based on their deceased husband's insurance was assumed to run off gradually since such pensions are generally only available in respect of pre-2001 marriages.

This approach mirrors that adopted for the 2015 review except that some simplifications have been applied in respect of the run-off of widow's OAP.

- F.40 It is then necessary to make assumptions for pensions for women based on their own contribution record. This was done using the same approach as for men, including applying the 0.95 adjustment described in paragraph F.31. Consistent with the approach for men, it was assumed that 55% of individuals choose to draw their pension up to two years before pension age.
- F.41 However, it is recognised that this modelling will include some own contribution record cases, who will in practice qualify for a pension on the basis of their husband's or deceased husband's contributions.
- F.42 Therefore, a percentage reduction has been applied to awards of pensions derived from women's own contributions, in order to reflect those women who will actually draw a pension based on their husband's or deceased husband's contribution record. The initial percentage has been set by comparing recent data on the amounts of pension coming into payment based on the woman's own record and the theoretical amounts based on the method in paragraph F.40. The percentage reduction was assumed to run off to zero steadily over time, so that by about 2050 all OAP awards to women were based on their own contribution records.
- F.43 Based on this approach, the long-term factors for women are as in the following table.

Table F.3: Long-term old age pension factors at pension age for women, 2017 review and 2015 review

	2017 review	2015 review
+325 migration	74%	78%
+700 migration	72%	75%
+1,000 migration	71%	74%

- F.44 As for men, the factors are lower than assumed for the 2015 review, mainly because of the 0.95 adjustment applied in the 2017 review. Also, the factors reduce with increasing migration.
- F.45 Having obtained the projected expenditure for men and women, we have aligned the emerging initial cash-flow with recent expenditure.



Survivor's benefit

- F.46 Survivor's benefit is a relatively small part of the Fund's expenditure, around 2% in recent years, and we have therefore adopted a simplified approach to project expenditure. Under this approach, the expenditure is assumed to equal the expenditure in 2017 (£4,199,000) varied in line with the projected numbers of deaths in the population at working ages.
- F.47 In addition, an adjustment has been applied to expenditure on survivor's pension to allow for the new rules meaning that pension is only available to those with eligible children. As for the 2015 review, it has been assumed that this will lead to a two-thirds reduction in expenditure. This reduction is assumed to be phased in over the period up to 2032 (as a proxy for new pension awards being reduced by two-thirds from 2022).
- F.48 This is the same approach as was adopted for the 2015 review and implicitly allows for the benefit rate to be increased in line with earnings. We can make a comparison of the projections made at the 2015 actuarial review with actual expenditure on survivor's benefit in 2016 and 2017. This shows that the projected expenditure in 2016 was very close to the actual figure in 2016. However, in 2017 actual expenditure fell away quite sharply and was around 5% lower than the figure projected at the 2015 review (based on net immigration of 1,000 a year). The appropriateness of our projection method should be reviewed once more data becomes available at future actuarial reviews.

Incapacity benefits

- F.49 Expenditure on short-term incapacity allowance (STIA) has been projected by taking the projected number of contributors and multiplying by the age and sex specific assumed numbers of days of benefit paid per contributor. This was then multiplied by the full benefit rate and by a factor reflecting the average proportion of the full benefit rate which is paid, including an allowance for dependants' increases.
- F.50 The assumptions about the number of days of benefit paid, the proportion of the full rate that is paid and the allowance for dependants were derived by analysing experience over the six years 2012 to 2017. The data indicated that the number of days of benefit paid per contributor has been falling over the period 2012 to 2017, although with some variability from year to year³⁰. Therefore, by basing the assumption on the average over this period, we have only made partial allowance for the recent falls in the number of days paid. However, given, over the long-term, the take up of incapacity benefits is potentially subject to considerable uncertainty reflecting, for example, the wider economic and policy context, we consider this is a reasonable approach. A summary of the main assumptions is given in Table F.4 below.

³⁰ The average number of days of STIA paid fell from 11.7 in 2012 to 9.4 in 2017 for men, and from 11.7 in 2012 to 11.0 in 2017 for women.



- F.51 Age specific future awards of long-term incapacity allowance (LTIA), excluding lump sum awards, were projected by applying an assumed award rate per contributor to the projected number of contributors. The number of recipients in future years was obtained by taking the number of beneficiaries in 2017, adding in estimated future awards, and deducting the number of claims that are assumed to terminate. The projected benefit costs were obtained by multiplying the projected number of beneficiaries by the full benefit rate, and by a factor reflecting the average proportion of the full benefit rate which is paid, with an allowance for dependants' increases. Again, the assumptions on the award and termination rates, proportion of the full benefit payable and dependants were derived from experience in the period 2012 to 2017.
- F.52 There is some evidence that rate of award of LTIA has been falling in recent years, particularly for men³¹. However, as with the STIA, we consider it is reasonable to set the assumed rate of awards by reference to the average rate of awards over the six years from 2012 to 2017. Again, a summary of the main assumptions is given in Table F.4 below.
- F.53 The cost of LTIA where the degree of disability is less than 20% (which is paid as a lump sum) was projected separately by applying a loading to the projection of LTIA.
- F.54 It has been noted at previous reviews that the number of awards of incapacity pension had been very low and the Social Security Department indicated that they expected this to continue. The data provided for the 2017 review confirms that the small numbers of incapacity pension awards have been maintained. Therefore, as for the 2015 review, we have adopted a simplified approach in modelling this benefit, on grounds of materiality: projecting the 2017 actual expenditure in line with the development of expenditure on LTIA.
- F.55 Invalidity benefit and disablement benefit have ceased to be awarded since October 2004, but previous awards continue in payment. The costs of these benefits were run-off allowing for a proportion of them to terminate each year. In the case of invalidity benefit, it was assumed, having regard to experience over the period 2012 to 2017, that the average rate of termination of these benefits would be 4% a year at ages up to pension age, with all awards assumed to cease at that age. For disablement benefit, it was assumed that awards would run-off in line with the assumed rates of mortality for the Jersey population.
- F.56 A summary of some of the key assumptions for incapacity benefits is shown in the following table.

³¹ The average number of LTIA awards (excluding lump sums) per 1,000 contributors fell from 7.5 in 2012 to 5.9 in 2017 for men, and from 7.2 in 2012 to 6.5 in 2017 for women.



Table F.4: Summary of key assumptions for incapacity benefits – the equivalent assumption for contributors as a whole calculated by applying the age and sex specific assumptions to the contributor numbers in 2017, with the corresponding figures from the 2015 review shown in brackets

	Men	Women
Short-term incapacity benefit:		
Average number of days of benefit paid in year per contributor	10.2 (10.6)	11.2 (11.4)
Average proportion of full rate of benefit	0.97 (0.97)	0.96 (0.97)
Long-term incapacity allowance (excluding lump sum awards):		
Average number of awards in year per 1,000 contributors	6.5 (7.2)	7.1 (7.5)
Average proportion of full rate of benefit	0.47 (0.48)	0.47 (0.48)

- F.57 Having obtained the projected expenditure for men and women, we have aligned the emerging initial cash-flow with recent expenditure.
- F.58 The remaining benefits (maternity allowance and grant, death grant, insolvency benefit and home carer's allowance) each form only a relatively small proportion of total Fund expenditure. Therefore, it is appropriate to adopt a simplified modelling approach for these benefits, and this will not have a material impact on the overall projections.

Maternity benefits

- F.59 The average expenditure on maternity allowance per birth, expressed as a multiple of the full weekly benefit rate, averaged about 11.4 in the four years 2012 to 2015. However, it increased to about 13.5 in 2016 and 2017. This increase may be related to the increased choice that women have with effect from 2015 on when the benefit can commence. In order to make allowance for these new terms, projected expenditure on maternity allowance was calculated by taking the average cost per birth, as a multiple of the full benefit rate, over the three years 2015 to 2017 (13.0) and multiplying by the full benefit rate and the projected number of births from the population projection. This approach implicitly allows for the benefit rate to be increased in line with earnings.
- F.60 A similar approach was used for maternity grants, assuming that the proportion of births qualifying for a grant was the same as the average over the six years 2012 to 2017 (96%). Adoption grant has been included with maternity grant, for the purposes of this report.



Death Grant

- F.61 The future expenditure on death grants was calculated by increasing the expenditure in 2017 (£585,000) in line with the projected number of deaths from the population projection, implicitly allowing for the benefit rate to be increased in line with earnings.

Insolvency benefits

- F.62 Insolvency benefits were introduced on 1 December 2012, and total amounts paid have been very variable in each year: from close to zero up to about £1 million. For the 2015 review, based on guidance from the Social Security Department, we assumed that expenditure would average £250,000 a year (in 2015 earnings terms) adjusted in line with changes in the size of the working age population.
- F.63 We understand that the Department is now budgeting that Insolvency Benefit will average around £100,000 a year in the period 2018 to 2022. We have therefore assumed expenditure on this benefit will be £100,000 a year, in constant 2017 earnings terms, again varying in line with changes in the size of the working age population.

Home carer's allowance

- F.64 Since its introduction in 2013, expenditure on Home Carer's Allowance has remained fairly stable at just under £2 million in each year 2013 to 2017. We have modelled future expenditure by projecting the 2017 expenditure (£1,970,000) in line with changes in the size of the working age population.

Administration expenses

- F.65 The administration expenses relate to the collection of contribution income, the payment of benefit claims and general management costs. These expenses exclude costs generated within the Common Investment Fund (CIF) which are reflected in a deduction from the investment return achieved by the CIF.
- F.66 For the purpose of our review, administrative expenses are expressed as a proportion of benefit expenditure. This proportion has shown considerable variability in recent years, although overall the proportion has fallen significantly, as shown in the following table:

Table F.5: Expenditure on expenses as a percentage of benefit expenditure

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Expenses as % of benefits	4.9%	4.5%	4.8%	4.1%	3.0%	3.4%	3.2%	2.6%	2.9%	2.2%



- F.67 There is a wide range of factors that will influence how administrative expenses will develop as a percentage of benefit expenditure, for example:
- > growth in benefit expenditure (in constant earnings terms) will allow fixed costs to be spread over a greater volume of benefit payments, meaning administrative expenses will fall relative to benefit expenditure (other things being equal)
 - > one-off costs on implementing revised contribution or benefit rules
 - > the replacement of a computer system and how this cost is depreciated
 - > changes in how costs are shared with the Health Insurance Fund and the Long Term Care Fund.
- F.68 The table above shows that expenses have generally been falling as a percentage of benefit expenditure over the past ten years. The Social Security Department have also indicated no material fluctuations in expenses are expected over the next few years.
- F.69 Given the uncertainties, we have assumed that throughout the projection period the level of expenses will average 2.5% of benefit expenditure. This is a little lower than the assumption of 3% made at the 2015 review.

Indexation assumptions

- F.70 In making the projections in this report, it is assumed that all benefit rates (subject to the adjustment below for the OAP), the earnings ceiling and the threshold for supplementation will be increased in future in line with average earnings. The results, where shown in monetary terms, have therefore been shown in constant 2017 earnings terms. This means that assumptions for price inflation and real earnings increases are not generally required for the review.
- F.71 It is implicitly assumed that earnings across the whole of the earnings profile (from low to high earners) increase in line with average earnings. Differential rates of earnings growth across different earnings levels may affect the projection of contributions, as not all earnings are subject to contributions at the same rate. No allowance has been made for such differential growth to occur in the future, but it should be noted that this represents a further area of uncertainty in the projections.
- F.72 As noted in paragraph B.27, the States grant is fixed in cash terms in the period 2015 to 2019. In order to convert the 2018 and 2019 payments into constant 2017 earning terms it is necessary to make allowance for earnings increases over this period. For 2018, the earnings increase has been taken as 3.5% which is the increase in the index of average earnings in the year to 2018. The assumed earnings increase for 2019 (3.9%) has been taken from the economic assumptions set out in the Fiscal Policy Panel's letter dated 2 August 2018.



- F.73 The mechanism for increasing the OAP now has regard to price inflation, as well as earnings increases (see paragraph B.6). In particular, if in any year price inflation (as measured by the RPI (pensioner) index) exceeds the increase in average earnings, then pensions will be increased in line with prices. However, the increase in excess of earnings growth would be offset against future pension increases, in order to target earnings indexation over the long term. In general, this offsetting process would be spread over two or three years.
- F.74 We note that the OAP was increased in line with prices in both 2017 and 2018, as this exceeded earnings growth in both years³². In projecting the cost of the OAP, we have included allowance for the actual rate of the OAP in 2018.
- F.75 Furthermore, the August 2018 letter from the Fiscal Policy Panel indicated that, in the medium term, the Panel expects no growth in earnings relative to prices. Therefore, for this review, we have made the implicit assumption of zero real earnings growth over the twenty years to 2037, but with a return to positive real earnings growth thereafter.
- F.76 In circumstances where there is little or no growth in earnings relative to prices, the RPI underpin on increases to the OAP is likely to have a significant impact. This is because the claw-back of pension increases in excess of earnings growth is generally spread over a few years, and as a result it may not be possible to claw back in full the “excess” pension increase. In order to estimate the possible impact of this, we have calculated what pension increases would have been awarded over the period 2001 to 2018 (which was a period of low real earnings growth) assuming the current pension indexation rules were in place over the whole of that period. This showed that the OAP would have risen by around ¼% a year more than earnings.
- F.77 We have therefore made allowance for the OAP to increase by 0.25% a year in excess of earnings growth up to 2037. This means that in 2037, the rate of OAP would be nearly 6% higher than it would have been had it only increased in line with earnings. After 2037, it is assumed that there would be a return to positive real earnings growth and therefore that it will be possible gradually to claw back the excess pension increases. We have therefore assumed that the 6% loading on the OAP rate would fall to zero by 2057. You should note that this is intended only as an indicative assumption of the possible impact of the RPI underpin. The actual impact could be quite different and will be very dependent on the precise relationship between price inflation and earnings growth from year to year.

³² For 2017 and 2018 respectively, the increase in the RPI (pensioner) index was 2.8% or 4.3% compared with a 2.6% or 3.5% increase in average earnings.



Fund projections

F.78 In order to project the Fund balance we need to make an assumption about investment returns net of earnings increases. We have estimated that the Fund achieved investment returns net of earnings increases of 9.3% a year over the six years 2012 to 2017, but over the longer period from 2000 to 2017 returns averaged about 2.3% a year net of earnings growth.

F.79 The document “States of Jersey Investment Strategies (December 2017)”³³ outlines the investment strategies adopted for various State sponsored investment funds. The strategy for the Social Security (Reserve) Fund is summarised in the following table.

Table F.6: Investment strategy for the Social Security (Reserve) Fund

	Strategic aim	Range
Equities	58%	48% to 68%
Bonds	10%	8% to 12%
Alternatives	30%	15% to 35%
Cash	2%	0% to 4%
	100%	

F.80 We understand that the strategy is to hold a high proportion of the assets in return-seeking investments, and this is likely to have contributed to the favourable investment performance in recent years. However, high returning assets are also likely to carry a greater level of risk. In the longer-term, the investment strategy could change, for example if it became necessary to start drawing down the assets in order to meet expenditure.

F.81 At the 2015 review, we assumed future investment returns of 2% a year above earnings growth, which the Fund has significantly outperformed in recent years. However, the future returns that will be earned are clearly very uncertain and there is a range of views as to what will be achievable over the long term. It is also worth noting that recent years have generally seen positive market performance, while at the same time earnings growth in Jersey has been fairly constrained.

F.82 On balance, we have retained the assumption adopted at the 2015 review so future investment returns are assumed to average 2% a year above earnings growth (net of expenses levied within the CIF).

³³ <https://statesassembly.gov.je/assemblyreports/2017/r.135-2017.pdf>



- F.83 This investment return assumption is intended to be indicative of the long term return that might be expected from a generic strategy as set out in Table F.6. To help highlight the significance of the actual investment returns achieved, we have also shown the impact of assuming that investment returns are 3% a year higher or lower than the assumption for the main results.

GVA projections

- F.84 In order to show how expenditure on Fund benefits compares with the size of the economy as a whole, we have expressed our expenditure projections as a percentage of Gross Value Added (GVA). It is therefore necessary to make a projection of GVA on a consistent basis with our expenditure projections. In order to do this, we have taken the latest available figure for GVA (£4.19 bn in 2016) and for future years allowed this to vary in line with the size of the working age population and the growth in average earnings.



Appendix G: Summary of projections

Table G.1: Summary of income and expenditure and the projected combined balance in the Social Security and Social Security (Reserve) Funds in 2017 earnings terms and assuming net future immigration of 325 people a year ³⁴

£ thousand	2017 ³⁵	2022	2027	2037	2047	2057	2067	2077
Opening fund balance	1,644,193	2,026,014	2,200,017	2,117,648	1,517,255	831,260	192,895	-
Contribution income	245,180	251,579	252,941	253,716	256,210	258,751	261,479	264,413
Benefit expenditure	225,456	242,893	268,523	335,260	345,584	331,615	320,118	322,979
Admin expenditure	5,033	6,072	6,713	8,382	8,640	8,290	8,003	8,074
Total expenditure	230,489	248,966	275,236	343,642	354,223	339,905	328,121	331,053
Excess of contribution income over expenditure	14,691	2,613	-22,296	-89,926	-98,013	-81,154	-66,643	-66,640
Investment return	192,776	40,546	43,778	41,458	29,370	15,818	3,195	-
Closing fund balance	1,851,660	2,069,174	2,221,500	2,069,180	1,448,612	765,924	129,447	-

³⁴ Figures may not sum to totals shown due to rounding.

³⁵ The figures for 2017 are the actual figures taken from the accounts. In particular, this gives a larger figure for investment income since it is not net of earnings increases.



Table G.2: Summary of income and expenditure and the projected combined balance in the Social Security and Social Security (Reserve) Funds in 2017 earnings terms and assuming net future immigration of 700 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Opening fund balance	1,644,193	2,040,064	2,257,112	2,364,703	2,113,424	1,941,241	1,959,961	2,073,199
Contribution income	245,180	258,146	265,389	280,142	295,768	312,835	327,858	344,586
Benefit expenditure	225,456	243,784	270,214	339,103	353,676	347,868	349,330	367,802
Admin expenditure	5,033	6,095	6,755	8,478	8,842	8,697	8,733	9,195
Total expenditure	230,489	249,879	276,969	347,581	362,518	356,565	358,063	376,997
Excess of contribution income over expenditure	14,691	8,266	-11,580	-67,439	-66,751	-43,731	-30,205	-32,411
Investment return	192,776	40,884	45,027	46,623	41,604	38,390	38,899	41,141
Closing fund balance	1,851,660	2,089,214	2,290,559	2,343,886	2,088,277	1,935,900	1,968,655	2,081,929

Table G.3: Summary of income and expenditure and the projected combined balance in the Social Security and Social Security (Reserve) Funds in 2017 earnings terms and assuming net future immigration of 1,000 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Opening fund balance	1,644,193	2,051,305	2,302,796	2,562,361	2,590,445	2,829,339	3,373,526	4,113,640
Contribution income	245,180	263,399	275,348	301,294	327,433	356,117	380,975	408,732
Benefit expenditure	225,456	244,497	271,566	342,190	360,159	360,898	372,744	403,720
Admin expenditure	5,033	6,112	6,789	8,555	9,004	9,022	9,319	10,093
Total expenditure	230,489	250,609	278,355	350,745	369,163	369,920	382,063	413,813
Excess of contribution income over expenditure	14,691	12,790	-3,007	-49,451	-41,730	-13,803	-1,087	-5,081
Investment return	192,776	41,153	46,026	50,755	51,394	56,449	67,460	82,222
Closing fund balance	1,851,660	2,105,248	2,345,815	2,563,665	2,600,108	2,871,985	3,439,899	4,190,782



Table G.4: Summary of benefit expenditure in 2017 earnings terms and assuming net future immigration of 325 people a year ³⁶

£ thousand	2017 ³⁷	2022	2027	2037	2047	2057	2067	2077
Old age pension	179,292	194,555	219,076	287,695	298,478	284,753	273,108	275,526
Survivor's benefit	4,199	3,491	2,785	1,782	1,580	1,419	1,265	1,152
Invalidity benefit ³⁸	9,151	6,237	4,390	1,847	779	298	58	6
Short-term incapacity allowance	13,832	15,071	15,490	15,520	15,736	15,918	16,130	16,313
Long-term incapacity allowance	13,054	17,279	20,442	21,889	22,236	22,382	22,661	23,034
Incapacity pension	129	170	201	216	219	221	223	227
Total incapacity	36,166	38,758	40,524	39,472	38,970	38,818	39,072	39,579
Maternity allowance	2,620	2,770	2,754	2,813	2,896	2,881	2,904	2,951
Maternity/adoption grant	570	616	613	626	644	641	646	656
Total maternity	3,190	3,386	3,367	3,439	3,540	3,521	3,550	3,607
Death grant	585	609	643	760	889	954	946	915
Insolvency Benefit	54	101	103	102	103	104	105	106
Home carer's allowance	1,970	1,994	2,025	2,011	2,024	2,046	2,072	2,093
Total expenditure	225,456	242,893	268,523	335,260	345,584	331,615	320,118	322,979

³⁶ Figures may not sum to totals shown due to rounding.

³⁷ The figures for 2015 are the actual figures taken from the accounts, supplemented with additional ledger information provided by the Jersey Social Security Department.

³⁸ This includes both invalidity pension and disablement pension.



Table G.5: Summary of benefit expenditure in 2017 earnings terms and assuming net future immigration of 700 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Old age pension	179,292	194,691	219,238	288,036	300,619	292,537	291,582	307,287
Survivor's benefit	4,199	3,535	2,858	1,900	1,767	1,665	1,545	1,457
Invalidity benefit ³⁹	9,151	6,237	4,390	1,847	779	298	58	6
Short-term incapacity	13,832	15,473	16,228	17,028	18,108	19,141	20,144	21,136
Long-term incapacity	13,054	17,387	20,795	23,095	24,639	26,061	27,463	29,001
Incapacity pension	129	171	205	228	243	257	271	286
Total incapacity	36,166	39,269	41,618	42,198	43,769	45,756	47,935	50,429
Maternity allowance	2,620	2,894	2,970	3,179	3,413	3,554	3,725	3,911
Maternity/adoption grant	570	644	661	707	759	791	828	870
Total maternity	3,190	3,538	3,630	3,887	4,173	4,345	4,553	4,781
Death grant	585	611	648	770	908	989	1,005	1,009
Insolvency Benefit	54	103	107	112	118	124	131	137
Home carer's allowance	1,970	2,037	2,114	2,201	2,323	2,451	2,579	2,702
Total expenditure	225,456	243,784	270,214	339,103	353,676	347,868	349,330	367,802

³⁹ This includes both invalidity pension and disablement pension.



Table G.6: Summary of benefit expenditure in 2017 earnings terms and assuming net future immigration of 1,000 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Old age pension	179,292	194,801	219,369	288,322	302,342	298,794	306,411	332,762
Survivor's benefit	4,199	3,570	2,916	1,995	1,917	1,861	1,767	1,699
Invalidity benefit ⁴⁰	9,151	6,237	4,390	1,847	779	298	58	6
Short-term incapacity	13,832	15,795	16,818	18,236	20,006	21,720	23,357	24,996
Long-term incapacity	13,054	17,473	21,078	24,060	26,563	29,007	31,307	33,777
Incapacity pension	129	172	208	237	262	286	309	333
Total incapacity	36,166	39,677	42,494	44,380	47,610	51,311	55,030	59,112
Maternity allowance	2,620	2,993	3,142	3,472	3,828	4,093	4,381	4,680
Maternity/adoption grant	570	666	699	772	851	911	974	1,041
Total maternity	3,190	3,659	3,841	4,245	4,679	5,004	5,355	5,721
Death grant	585	613	651	778	924	1,017	1,053	1,084
Insolvency Benefit	54	105	111	119	130	141	151	161
Home carer's allowance	1,970	2,072	2,184	2,352	2,558	2,771	2,977	3,181
Total expenditure	225,456	244,497	271,566	342,190	360,159	360,898	372,744	403,720

⁴⁰ This includes both invalidity pension and disablement pension.



Table G.7: The estimated future contribution income in 2017 earnings terms based on current contribution rates and assuming net future immigration of 325 people a year ⁴¹

£ thousand	2017 ⁴²	2022	2027	2037	2047	2057	2067	2077
Class 1								
Primary	75,607	75,689	76,047	76,317	77,220	77,966	78,856	79,567
Secondary to SEL	81,269	80,570	80,289	79,574	80,266	81,042	81,953	82,749
State supplement	73,980	74,185	75,121	76,120	76,885	77,553	78,634	79,365
SEL to UEL (secondary)	6,077	5,989	5,958	5,876	5,938	6,016	6,063	6,113
States Grant	60,880	67,282	68,217	70,078	70,693	71,347	72,018	73,134
Combined value of States grant and contributions	223,833	229,530	230,511	231,845	234,117	236,371	238,891	241,564
Class 2								
Primary to SEL	14,937	15,175	15,413	15,096	15,253	15,447	15,611	15,765
State supplement	6,920	6,937	6,981	6,784	6,865	6,941	7,024	7,088
SEL to UEL (primary)	1,990	2,073	2,173	2,156	2,173	2,209	2,226	2,257
States Grant	4,420	4,801	4,843	4,619	4,667	4,724	4,751	4,828
Combined value of States grant and contributions	21,347	22,049	22,430	21,871	22,094	22,380	22,588	22,849
All classes								
Primary to SEL	90,544	90,864	91,460	91,413	92,474	93,412	94,467	95,332
Secondary to SEL	81,269	80,570	80,289	79,574	80,266	81,042	81,953	82,749
State supplement	80,900	81,122	82,102	82,904	83,750	84,494	85,658	86,453
SEL to UEL (Total)	8,067	8,062	8,131	8,032	8,111	8,224	8,289	8,370
States Grant	65,300	72,083	73,060	74,697	75,360	76,071	76,769	77,962
Combined value of States grant and contributions	245,180	251,579	252,941	253,716	256,210	258,751	261,479	264,413

⁴¹ Figures may not sum to totals shown due to rounding.

⁴² The figures for 2017 are the actual figures taken from the accounts, supplemented with additional ledger information provided by the Jersey Social Security Department.



Table G.8: The estimated future contribution income in 2017 earnings terms based on current contribution rates and assuming net future immigration of 700 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Class 1								
Primary	75,607	78,159	80,450	84,815	89,937	94,768	99,594	104,224
Secondary to SEL	81,269	83,119	84,822	88,311	93,361	98,393	103,395	108,264
State supplement	73,980	76,657	79,424	84,352	89,302	94,056	99,020	103,649
SEL to UEL (secondary)	6,077	6,157	6,276	6,525	6,915	7,304	7,658	8,013
States Grant	60,880	68,230	70,524	76,549	80,186	85,461	89,025	94,443
Combined value of States grant and contributions	223,833	235,664	242,072	256,200	270,398	285,926	299,671	314,944
Class 2								
Primary to SEL	14,937	15,525	16,089	16,564	17,594	18,610	19,545	20,491
State supplement	6,920	7,110	7,306	7,461	7,932	8,379	8,807	9,226
SEL to UEL (primary)	1,990	2,115	2,256	2,348	2,490	2,645	2,772	2,916
States Grant	4,420	4,842	4,972	5,030	5,286	5,653	5,870	6,235
Combined value of States grant and contributions	21,347	22,481	23,317	23,941	25,370	26,908	28,187	29,642
All classes								
Primary to SEL	90,544	93,684	96,539	101,379	107,531	113,378	119,139	124,715
Secondary to SEL	81,269	83,119	84,822	88,311	93,361	98,393	103,395	108,264
State supplement	80,900	83,767	86,730	91,813	97,234	102,435	107,827	112,875
SEL to UEL (Total)	8,067	8,271	8,532	8,873	9,404	9,949	10,430	10,929
States Grant	65,300	73,072	75,496	81,579	85,472	91,114	94,894	100,678
Combined value of States grant and contributions	245,180	258,146	265,389	280,142	295,768	312,835	327,858	344,586



Table G.9: The estimated future contribution income in 2017 earnings terms based on current contribution rates and assuming net future immigration of 1,000 people a year

£ thousand	2017	2022	2027	2037	2047	2057	2067	2077
Class 1								
Primary	75,607	80,134	83,973	91,618	100,116	108,215	116,188	123,952
Secondary to SEL	81,269	85,158	88,449	95,305	103,843	112,279	120,553	128,678
State supplement	73,980	78,635	82,867	90,942	99,239	107,260	115,331	123,076
SEL to UEL (secondary)	6,077	6,291	6,530	7,044	7,697	8,336	8,935	9,533
States Grant	60,880	68,988	72,370	81,728	87,785	96,753	102,631	111,491
Combined value of States grant and contributions	223,833	240,571	251,321	275,695	299,441	325,583	348,307	373,653
Class 2								
Primary to SEL	14,937	15,805	16,629	17,738	19,468	21,143	22,695	24,274
State supplement	6,920	7,249	7,566	8,003	8,786	9,530	10,235	10,937
SEL to UEL (primary)	1,990	2,148	2,322	2,502	2,743	2,994	3,208	3,444
States Grant	4,420	4,875	5,075	5,359	5,781	6,397	6,765	7,362
Combined value of States grant and contributions	21,347	22,827	24,027	25,599	27,992	30,534	32,668	35,079
All classes								
Primary to SEL	90,544	95,939	100,603	109,356	119,584	129,357	138,883	148,226
Secondary to SEL	81,269	85,158	88,449	95,305	103,843	112,279	120,553	128,678
State supplement	80,900	85,884	90,433	98,945	108,025	116,790	125,566	134,013
SEL to UEL (Total)	8,067	8,439	8,852	9,546	10,440	11,330	12,144	12,976
States Grant	65,300	73,863	77,445	87,087	93,566	103,150	109,396	118,852
Combined value of States grant and contributions	245,180	263,399	275,348	301,294	327,433	356,117	380,975	408,732