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GOVERNMENT **ACTUARY'S** DEPARTMENT

Report by the Government Actuary on the financial condition of the Social Security Fund as at 31 December 2009

Date: 15 November 2011

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SOCIAL SECURITY (JERSEY) LAW 1974

Report by the Government Actuary on the financial condition of the Social Security Fund as at 31 December 2009

To the Minister for Social Security of the States of Jersey

Article 32 of the Social Security (Jersey) Law, 1974 requires the actuary to review the operation of the Law at intervals not exceeding three years. The previous review was as at 31 December 2006 and, at the request of the Minister, I have carried out a review as at 31 December 2009. I now submit the following report on the financial condition of the Social Security Fund and on the adequacy of the present contribution rates.

Trevor Llanwarne

Government Actuary

15 November 2011

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1 Executive summary

1.1 The Social Security Fund of the States of Jersey ("the Fund") is primarily designed to provide benefits in old age, and on death and incapacity to those who have paid the required contributions to the Fund. The Fund is financed by social security contributions. Currently, employees and their employer pay a total of 10.5% of earnings up to the Earnings Ceiling (excluding the contributions payable to the Health Insurance Fund). Similar contributions are paid by self-employed and non-employed persons unless they are exempt.

1.2 The financial position of the Fund 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:

> "… as from the end of each period of 3 years, or such shorter period as the Minister may direct, an actuary shall review the operation of this Law"

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."

1.3 This is my report on the latest review of the Fund, which has been carried out as at 31 December 2009, and it includes projections over the period from 2009 to 2069. In order to meet the legislative requirement, this review:

> considers the financial position of the Fund taking into account changes in legislation and Fund experience since the previous review
> projects possible future levels of expenditure from the Fund and the contribution rates required to finance this expenditure
> projects the balance in the Social Security Fund and the Social Security (Reserve) Fund

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; for this purpose it is assumed that the States' contribution ("supplementation") will continue to be calculated as at present
> the combined balances in the Social Security and Social Security (Reserve) Funds (together "the Combined Funds"), as a multiple of annual expenditure, assuming that the current rates of contribution remain unchanged

1.5 A summary of the results of the review is shown in the following table and charts. Results are shown separately for two assumptions about future migration to the Island: net nil future migration or net inward migration of 150 heads of household (HoHs) each year.

Table 1.1: Estimates of the break-even contribution rates, expenditure from the Social Security Fund and the balance in the Combined Funds based on the principal assumptions and expressed in constant 2009 earnings terms

Year	Break-even rate (% of earnings)	Expenditure (£m)	Funds' balance at year end (£m)	Average fund over year expressed as a multiple of annual expenditure
Net nil migration				
2009	8.7	180	782	3.9
2014	10.0	194	963	4.9
2019	11.2	212	1,041	4.9
2029	15.4	264	718	2.8
2039	19.1	297	-	-
2049	19.7	288	-	-
2059	20.8	277	-	-
2069	21.4	261	-	-
Net immigration of 150 HoHs a year				
2009	8.7	180	782	3.9
2014	9.8	194	982	5.0
2019	10.6	213	1,110	5.2
2029	13.7	267	992	3.8
2039	16.0	302	217	0.9
2049	15.7	299	-	-
2059	16.3	305	-	-
2069	16.9	309	-	-

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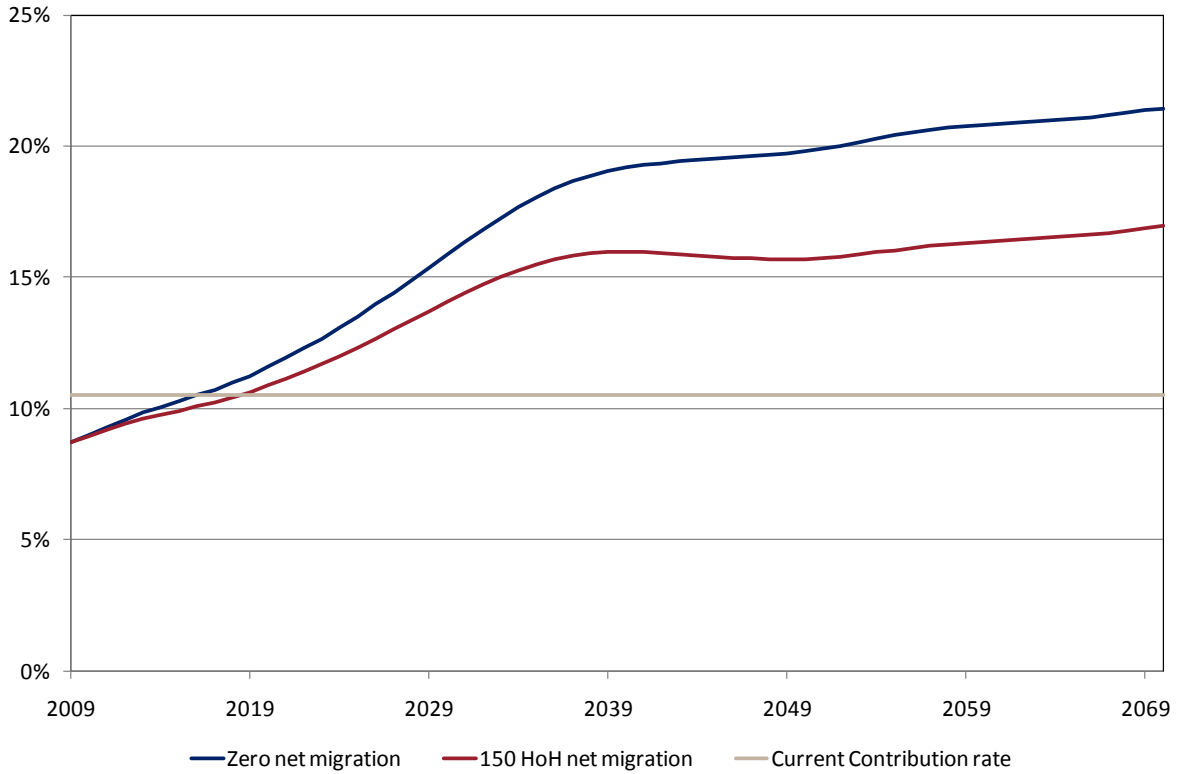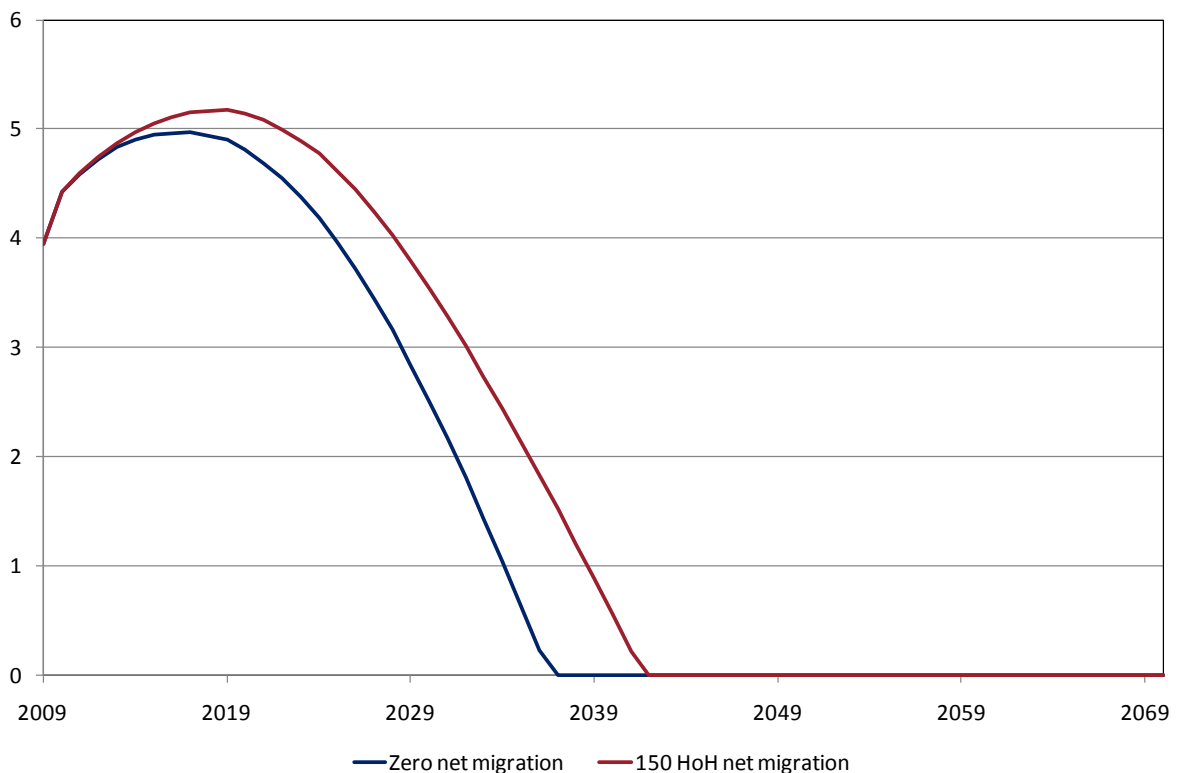

Figure 1.2: Projected Combined Fund balance expressed as a multiple of annual expenditure based on the principal assumptions

1.6   In summary, the results show that based on the principal assumptions:

Break-even contribution rate

> Assuming net nil future migration, the break-even contribution rate is projected to remain below the current rate of 10.5% up to 2016. Thereafter, the projected contribution rate initially rises rapidly, reaching 19.1% in 2039, but after that, the contribution rate broadly levels off at around 20% to 21%.

> The break-even contribution rate is also projected to rise under the assumption of inward migration of 150 HoHs each year, but the increase is less steep. The projected break-even contribution is projected to stay below 10.5% until 2019 and it then rises to 16% in 2039, before levelling off at about that level.

> The main driver of the increase in the break-even contribution rates 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 4.3 below for both migration scenarios.

Fund balance

> If the current rates of contributions remained unchanged, the combined Fund balance is projected to increase relative to expenditure for a few years after the review date, before starting to decline. Ultimately the fund would be entirely extinguished and at that point the contribution rate would need to rise to the break-even rate in order to meet expenditure.

> Assuming net nil future migration, if the current contribution rates were to continue, the projected balance in the Combined Funds would grow to a maximum of nearly five times annual expenditure in 2017. Thereafter, the balance would fall as a multiple of annual expenditure, until the Combined Funds are extinguished in 2037.

> Assuming future net immigration of 150 HoHs a year, the projected balance in the Combined Funds would grow to a maximum of nearly 5¼ years' expenditure in 2019, if the current contribution rates were to be paid. Thereafter, the balance would fall as a multiple of annual expenditure, until the Funds are extinguished in 2042.

> In practice, part of the Fund balance is not readily convertible into cash (for example, the part relating to fixed assets and debtors) and therefore it would be necessary to increase the contribution rate before the balance is fully extinguished. Indeed, it may be considered prudent to increase contribution rates earlier still in order to maintain a reasonable working cash balance.

1.7   The projections shown in this report are based on a large number of assumptions about future conditions. The main results summarised above are based on the "principal assumptions", notably:

> the size of the population will follow the projections prepared by the Jersey Statistics Unit assuming either net nil future migration or immigration of 150 heads of household (HoHs) 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 are assumed to increase in line with general earnings growth, as provided in legislation

1.8 In addition to calculating results using the principal assumptions, projections have also been made on "variant assumptions" to show how varying the assumptions can affect the projected financial development of the Fund. These variant assumptions consider, for example, the effect of changing the assumed rate of investment return or increasing the projected increase in expenditure on old age pensions.

1.9 As the future cannot be predicted with any confidence, there remains uncertainty about the future financial progress of the Fund and therefore care is needed in interpreting the projections shown in this report. It is important that the main body of this report be read in order to gain an understanding of the uncertainty and limitations surrounding the projections.

1.10 In conclusion, the financial outlook for the Fund remains healthy in the short term. However, action will need to be taken in order to ensure that the Fund can continue to meet its commitments in the longer term. For example, this might include drawing down assets from the Reserve Fund to meet any shortfall between income and expenditure in the Social Security Fund. As described above, this report shows that in the absence of changes to contributions or benefits, the Reserve Fund is expected to be extinguished in around 30 years' time (the exact year is very sensitive to the assumptions used). After this time, the contribution rate would need to be raised to at least the break-even rates described above. Changes to benefits such as increasing the pension age could help delay the point at which contributions need to be increased as well as limiting the size of the required increase. In connection with this, while the results in this report reflect the currently-legislated pension age of 65, we understand that legislation is about to be introduced to increase pension age from 65 to 67 over the period from 2020 to 2031. The impact of this is illustrated in Appendix G.

2   Introduction and scope of the review

2.1   The financial position of the Jersey Social Security Fund ("the Fund") 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:

> "… as from the end of each period of 3 years, or such shorter period as the Minister may direct, an actuary shall review the operation of this Law"

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."

2.2   This is my report on the latest review of the Fund, which has been carried out as at 31 December 2009, and it includes projections over the period from 2009 to 2069. In order to meet the legislative requirement, this review:

> - considers the financial position of the Fund taking into account changes in legislation and Fund experience since the previous review
> - projects possible future levels of expenditure from the Fund and the contribution rates required to finance this expenditure
> - projects the balance in the Social Security Fund and the Social Security (Reserve) Fund ("the Combined Funds"), assuming no change in social security contribution rates[1]

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

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

2.4   This report has been prepared for the Minister for Social Security. It is anticipated that the results in this report will be used by the Social Security Department for information purposes and for considering possible changes to contributions or benefits payable. However, before deciding on any changes, further actuarial advice should be sought in order to confirm the likely impact on the finances of the Fund. Furthermore, in making decisions about the Fund, it will also be appropriate to take into account non-actuarial matters, such as legal, administrative and policy issues.

2.5   The previous review of the Fund was carried out as at 31 December 2006 and the results were presented in my report dated 25 September 2009. That review showed that, in 2007, the current contribution rate of 10.5% was more than sufficient to cover the Fund's expenditure and allowed a substantial transfer of assets into the Social Security Reserve Fund.

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[1] These are currently 5.2% for the employee and 5.3% for the employer; these rates exclude the part of contributions that are allocated to the Health Insurance Fund.

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

Section 3	A discussion of how the Fund works and the main changes that have occurred since the previous review
Section 4	The results of the projections of income, expenditure and the balance in the Funds over a period of 60 years, based on the principal 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

2.7   The appendices give additional background and more detailed results.

2.8   Under legislation, the next review of the Social Security Fund is due to be carried out as at 31 December 2012, or earlier as the Minister may direct.

2.9   This report complies with the International Actuarial Association's Guidelines of Actuarial Practice for Social Security Programs effective from 1 January 2003. These guidelines set out standards for the information that should be included in actuarial reports on social security schemes.

2.10   The work underlying this report is not subject to, and does not therefore need to comply with, the Technical Standards issued by the Board for Actuarial Standards. Nevertheless, in producing this report, I have followed the principles of the Technical Standards to a sensible and practical extent.

Reliances and limitations

2.11   This report has been prepared for the Minister for Social Security and the Department for Social Security, although it is understood that the report will be made publicly available. However, I do not accept any liability to third parties in relation to this report.

2.12   I have relied on the accuracy of data and information provided by the Minister and the Department for Social Security ("the Client"). I do not accept responsibility for advice based on wrong or incomplete data or information provided by the Client.

2.13   Clarification should be sought if the Client has any doubt about the intention or scope of advice provided in this report. I am not responsible for any decision taken by the Client, except to the extent that the decision has been made in accordance with specific advice I have provided.

2.14   The advice provided must be taken in context. Advice is intended to be read and used as a whole and not in parts. I do not accept responsibility for advice that is altered or used selectively.

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 Upper Limit on earnings. Similar contributions are paid by self-employed and non-employed persons unless they are exempt. The States also contribute. If someone has income above the monthly threshold (£748 per month for 2009) but below the Upper Limit (£3,540 per month for 2009), the contribution based on the upper limit is made up through supplementation.

3.3   An amendment to the Social Security law was approved by the States in July 2011, creating a new type of contribution from 1 January 2012, to be levied above the current Upper Limit (to be renamed the Standard Earnings Limit, or SEL) up to a new upper earnings limit (UEL) which is initially to be £12,500 per month. The income from these additional contributions will be used to meet part of the cost of supplementation. The remaining cost will continue to be met through a States grant. Consequently, while the source of funding for supplementation will alter from January 2012 there is no impact on the total supplementation going into the Fund itself.

3.4   Since the previous actuarial review as at 31 December 2006 an amendment has been made to the supplementation provisions for those contributors who have not reached age 18. Section 9(2) of the Social Security (Jersey) Law 1974 includes a power to allow the Minister to dis-apply the monthly threshold for those under age 18, so that supplementation contributions are paid for all those under age 18, whether or not they have earnings above the threshold. However, with effect from 2010, the Minister has reversed this decision so that supplementation for those under age 18 is only provided to those who have earnings over the earnings threshold. This means that these contributors are treated in the same way as contributors aged 18 and over.

3.5   While the results in this report reflect the currently-legislated pension age of 65, we understand that legislation is about to be introduced to increase pension age from 65 to 67 over the period from 2020 to 2031. The impact of this is illustrated in Appendix G.

3.6   A summary of the benefits provided and the contributions payable to the Funds is given in Appendix A. A summary of the Fund accounts for the years 2007 to 2009 is set out in Appendix B. Appendix C provides a summary of the data used for the review.

3.7   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.

3.8   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

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

rate[3]. This has meant that there should be an excess of income over expenditure, which is transferred each year from the Social Security Fund 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 Social Security Fund.

3.9   In 2009, the contributions were more than enough to finance expenditure from the Social Security Fund, allowing a transfer to the Social Security (Reserve) Fund of about £38 million. The average assets of the Social Security Fund and the Reserve Fund together ("the Combined Funds") over 2009 represented nearly four times total expenditure from the Social Security Fund.

3.10   We understand that the long term investment strategy of the Reserve Fund is currently under review, with the intention of updating the long term strategic aim of holding 10% of assets in property to reflect alternative investments instead, with transitional arrangements and adjustments to the operating ranges also under consideration. The results in this report do not allow for these intentions. If the revised investment strategy leads to an increase in investment income this would lengthen the period until the Reserve Fund is extinguished.

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

4   Results based on the principal assumptions

4.1   Estimates have been made of the future income, benefit expenditure and administration expenditure of the Fund over the period from 2009 to 2069. The projections in this section are based on the principal assumptions, which have been chosen so that they represent a reasonable estimate of likely future experience, although in the case of the migration assumption I have relied on guidance from the Department of Social Security. The assumptions include that:

> the size of the population will follow the projections prepared by the Jersey Statistics Unit assuming either net nil future migration or immigration of 150 heads of household (HoHs) 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 are assumed to increase in line with general earnings growth, as provided in legislation

More details of the population projections can be found in Appendix D, while Appendix E gives details of the other assumptions underlying the projections.

4.2   Details of the projections in selected years are given in Appendix F and a summary of the key results is set out in this section. Where monetary amounts are shown these are in constant 2009 earnings terms.

4.3   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 would be the rates required if the Fund were following the pay-as-you-go financing approach

> the balance in the Combined Funds expressed as a number of years of Fund expenditure, assuming the current rates of contribution remain unchanged.

4.4   For these results:

> contributions to the Health Insurance Fund have been excluded from the break-even rates

> the value of supplementation is assumed to continue to be calculated as at present (see Appendix A, paragraph 7.18) based on the current contribution rate

Table 4.1: Estimates of the break-even contribution rates, expenditure from the Social Security Fund and the balance in the Combined Funds based on the principal assumptions and expressed in constant 2009 earnings terms

Year	Break-even rate	Expenditure (£m)	Funds' balance at year end (£m)	Average fund over year expressed as a multiple of annual of expenditure
		Net nil migration		
2009	8.7	180	782	3.9
2014	10.0	194	963	4.9
2019	11.2	212	1,041	4.9
2029	15.4	264	718	2.8
2039	19.1	297	-	-
2049	19.7	288	-	-
2059	20.8	277	-	-
2069	21.4	261	-	-
		Net immigration of 150 HoHs a year		
2009	8.7	180	782	3.9
2014	9.8	194	982	5.0
2019	10.6	213	1,110	5.2
2029	13.7	267	992	3.8
2039	16.0	302	217	0.9
2049	15.7	299	-	-
2059	16.3	305	-	-
2069	16.9	309	-	-

4.5   The break-even contribution rates and the combined 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 principal assumptions

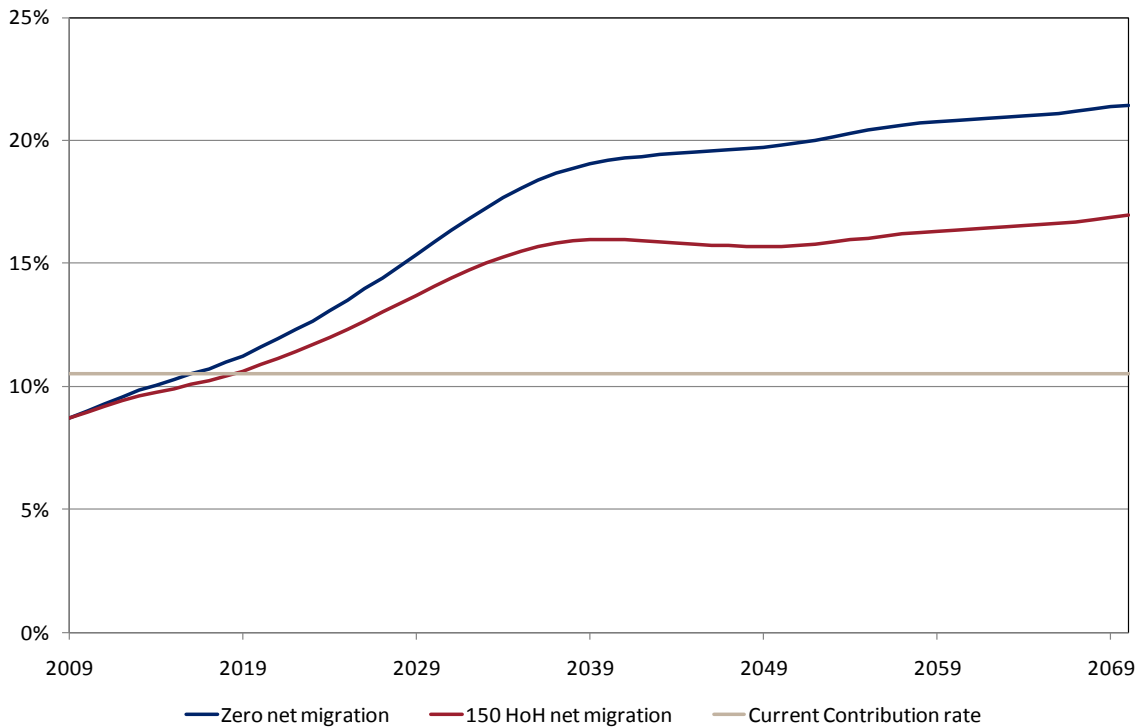Legend: Zero net migration — 150 HoH net migration — Current Contribution rate

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

Legend: Zero net migration — 150 HoH net migration

4.6   In summary, the results show that based on the principal assumptions:

Break-even contribution rate

> Assuming net nil future migration, the break-even contribution rate is projected to remain below the current rate of 10.5% up to 2016. Thereafter, the projected contribution rate initially rises rapidly, reaching 19.1% in 2039, but after that, the contribution rate broadly levels off at around 20% to 21%.

> The break-even contribution rate is also projected to rise under the assumption of inward migration of 150 HoHs each year, but the increase is less steep. The projected break-even contribution is projected to stay below 10.5% until 2019 and it then rises to 16% in 2039, before levelling off at about that level.

> The main driver of the increase in the break-even contribution rates 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 4.3 below for both migration scenarios.

Figure 4.3: Pensioner support ratio (that is, the number of people of working age for each person over pension age)

Fund balance

> If the current rates of contributions remained unchanged, the combined Fund balance is projected to increase relative to expenditure for a few years after the review date, before starting to decline. Ultimately the fund would be entirely extinguished and at that point the contribution rate would need to rise to the break-even rate in order to meet expenditure.

> Assuming net nil future migration, if the current contribution rates were to continue, the projected balance in the Combined Funds would grow to a maximum of nearly five times annual expenditure in 2017. Thereafter, the balance would fall as a multiple of annual expenditure, until the Combined Funds are extinguished in 2037.

> Assuming future net immigration of 150 HoHs a year, the projected balance in the Combined Funds would grow to a maximum of nearly 5¼ years' expenditure in 2019, if the current contribution rates were to be paid. Thereafter, the balance would fall as a multiple of annual expenditure, until the Funds are extinguished in 2042.

> In practice, part of the Fund balance is not readily convertible into cash (for example, the part relating to fixed assets and debtors) and therefore it would be necessary to increase the contribution rate before the balance is fully extinguished. Indeed, it may be considered prudent to increase contribution rates earlier still in order to maintain a reasonable working cash balance.

4.7　As noted above, the results in this report are based on a range of assumptions, including an assumption on the future levels of migration to and from the Island. The assumption of net immigration of 150 HoHs a year corresponds to 324 individual migrants in each year. This is broadly consistent with the average level of net immigration over the years 2001 to 2009[4]. However, net immigration over the later part of that period has been much higher, averaging over 600 migrants a year from 2005 to 2009.

4.8　If it had been assumed for this review that migration in all future years were closer to levels seen from 2005 to 2009, then the projected break-even contribution rates would be lower than those shown in Table 4.1. Although I have not made any detailed calculations to quantify this, I estimate that such a calculation might produce a contribution rate in 2059 that was of the order of 2% lower than that given for the 150 HoHs immigration scenario.

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[4]See "Jersey's Resident Population 2009" issued by the Jersey Statistics Unit in June 2010

5 Illustrative effects on the principal 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 Funds, and the levels of employment

> fund 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 climate change, pandemic disease or a change to the benefit or contribution structure.

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 principal assumptions.

5.4 I have therefore also prepared results on the basis of variant, but still plausible, assumptions.

Demographic assumptions

5.5 The results in section 4 are shown on the basis of two alternative assumptions regarding the future level of net migration to Jersey. It should be noted these two alternative scenarios are illustrative and should not be taken as setting bounds to the range of possibilities. 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 would require contribution rates to be increased sooner.

5.6 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. 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 do not simply reduce future migration), after an initial period of around 20 years. An increase in the assumed fertility rates would therefore improve the future financial position of the Fund, reducing the required break-even contribution rates after 20 years, and delaying the point at which contribution rates would need to be increased. Conversely, a decrease in the assumed fertility rates would worsen the future position of the Fund.

5.7 Any 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.

5.8 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.

Economic assumptions

5.9 It has not been necessary to make assumptions regarding the future levels of price inflation or earnings growth for this review. All results are presented in constant earnings terms, and benefit rates and contribution limits are 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.

5.10 For the purposes of projecting the balance in the Combined Funds, it has been necessary to make an assumption regarding the future rate of return of the investments. It has been assumed for the principal results that the future rate of return, net of associated expenses, is 2% per annum in excess of earnings growth. This is discussed further in Appendix E commencing at paragraph 11.38. The effects on the projected fund balance of assuming future investment return 2% a year higher or lower than the assumption for the principal results is shown in Table 5.1. The results are illustrated in Figures 5.1 and 5.2.

5.11 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 combined Fund balance.

Table 5.1: Effect of assuming future investment return of 0%, 2% or 4% a year in excess of earnings increases on the projected combined fund balance expressed as a multiple of annual expenditure

Year	Zero net migration			Net immigration of 150 HoHs a year		
	0%	2%	4%	0%	2%	4%
2009	3.9	3.9	3.9	3.9	3.9	3.9
2014	4.5	4.9	5.3	4.6	5.0	5.4
2019	4.1	4.9	5.9	4.3	5.2	6.2
2029	1.5	2.8	4.9	2.3	3.8	6.0
2039	-	-	1.8	-	0.9	4.3
2049	-	-	-	-	-	2.2
2059	-	-	-	-	-	-
2069	-	-	-	-	-	-
Year balance extinguished	2033	2037	2043	2036	2042	2057

Figure 5.1: Projected balance in the Funds as a multiple of expenditure for different assumptions on investment return in excess of earnings and nil net migration
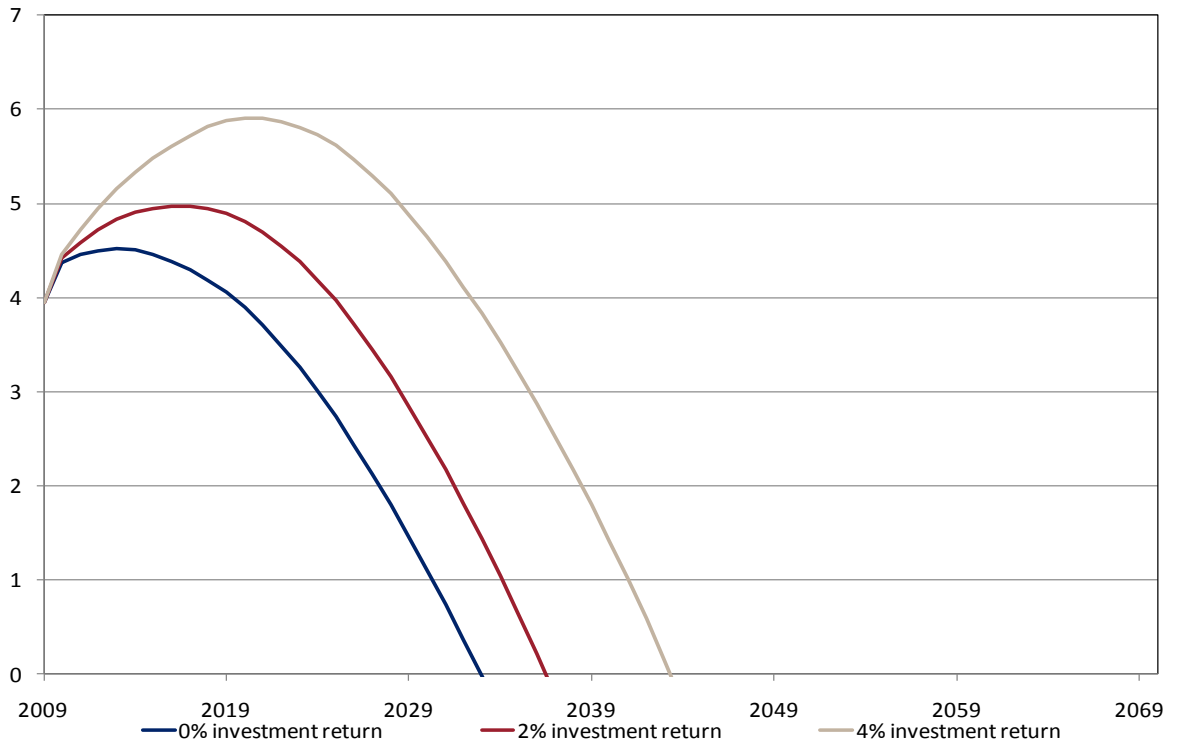
Figure 5.2: Projected balance in the Funds as a multiple of expenditure for different assumptions on investment return in excess of earnings and net immigration of 150 HoHs a year
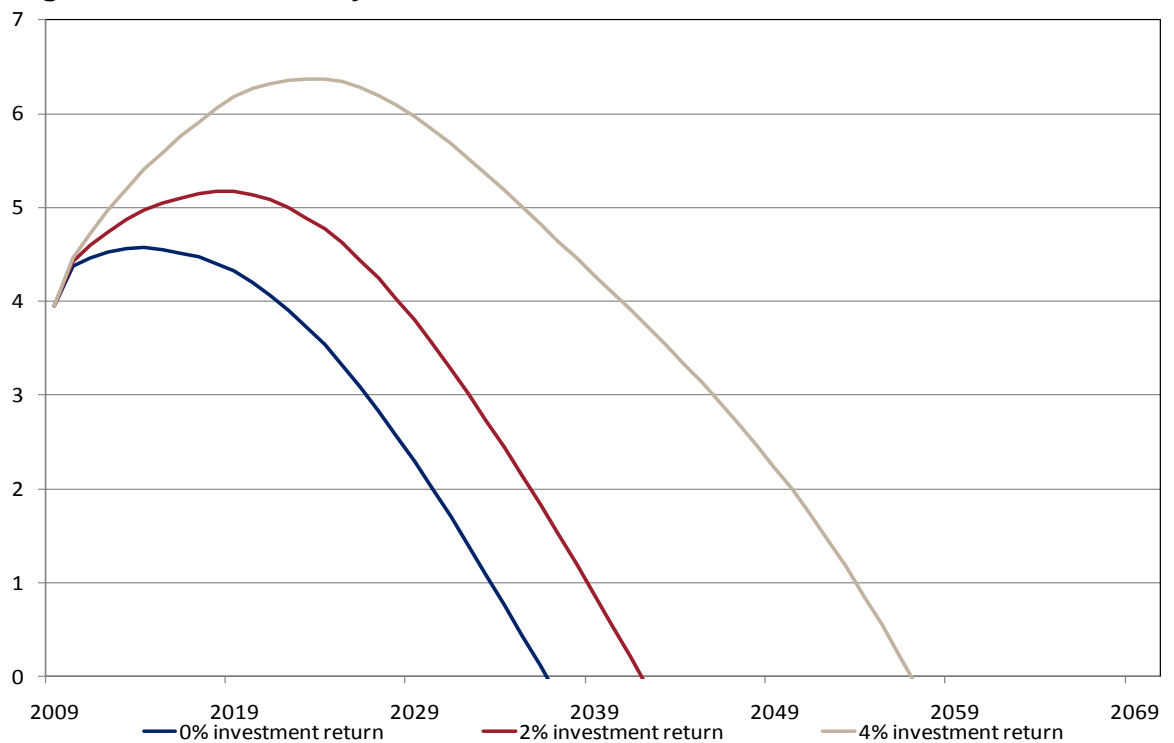
Fund assumptions

5.12   There is some uncertainty over the future level of expenditure on old age pensions. The current level of expenditure is less than the amount which would be expected if everybody who appears to be entitled to a pension based on past contributions data were to claim one. This feature may be expected because people who have paid contributions in Jersey in the past, but who are no longer resident in Jersey when they attain pension age, will be less likely to claim a pension than residents, particularly where they have contributed for only a short period in Jersey.

5.13   The principal projections shown in this report assume that over the period up to the 2030s there is a gradual increase each year in the likelihood and size of claims of old age pensions. Significant numbers of pensioners do not claim benefits each year. Many of these pensioners may be non-residents who have made a few years of contributions. While there is insufficient data to examine whether more such pensioners have been claiming in recent years, we make an assumption that in the future more non-residents will claim. If it were to be the case that there is no such future increase in the likelihood of claims from non-residents, then expenditure on old age pensions in the longer term may be of the order of 10% lower than that included in the principal projections. Conversely, should more non-residents claim in future than our assumption would suggest then the expenditure projections in this report could potentially prove to be understated.

5.14   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 Combined 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 apply from 2039 onwards, building up to this level uniformly from 2009. 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 2039 compared with the principal results, with this difference phased in uniformly from 2009

Year	Zero net migration			Net immigration of 150 HoHs a year		
	Main results	Pensions 10% higher	Pensions 10% lower	Main results	Pensions 10% higher	Pensions 10% lower
Break-even contribution rate (%)						
2009	8.7	8.7	8.7	8.7	8.7	8.7
2014	10.0	10.2	9.9	9.8	9.9	9.6
2029	15.4	16.2	14.5	13.7	14.4	13.0
2049	19.7	21.4	18.1	15.7	17.0	14.4
2069	21.4	23.2	19.5	16.9	18.3	15.4
Year in which Combined Fund balance is extinguished						
	2037	2034	2039	2042	2038	2048

5.15 The illustrative effects of varying certain assumptions shown in this section have considered the effects of varying these assumptions in isolation. The potential effects on the results of varying a combination of different assumptions should also be considered. In practice, the impact of the changes to the assumptions is likely to be correlated, but as a first approximation, the overall effect of two changes might be estimated by adding the effects of the two individual changes in isolation.

5.16 For example, with nil migration, if investment returns are 2% a year lower than our principal assumption and old age pension expenditure is 10% higher, then the year in which the Funds would be extinguished might be estimated very approximately as 2030. This is calculated as the year in which the Funds are extinguished in the main results (2037 – see Table 5.1 above), less the impact of 2% lower return (4 years, which equals 2037 minus 2033 – see Table 5.1) less the impact of the 10% higher old age pension spending (3 years, which equals 2037 minus 2034 – see Table 5.2).

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

6.1 Table 6.1 compares the projected break-even contribution rates from this report with those shown in the report on the previous actuarial review as at 31 December 2006.

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

	2009	2019	2029	2039	2049	2059	2069
Net nil migration							
Last review	**9.4**	**12.0**	**16.1**	**19.5**	**20.2**	**21.1**	**21.6**
Population projection	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
Actual 2009 position	-0.3	-0.4	-0.6	-0.7	-0.7	-0.8	-0.8
Other changes	0.0	-0.3	-0.2	0.2	0.3	0.5	0.6
This review	**8.7**	**11.2**	**15.4**	**19.1**	**19.7**	**20.8**	**21.4**
Net immigration of 150 HoHs a year							
Last review	**9.4**	**11.4**	**14.5**	**16.5**	**16.3**	**16.8**	**17.4**
Population projection	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
Actual 2009 position	-0.3	-0.4	-0.5	-0.6	-0.6	-0.6	-0.6
Other changes	0.0	-0.3	-0.2	0.0	0.0	0.1	0.1
This review	**8.7**	**10.6**	**13.7**	**16.0**	**15.7**	**16.3**	**16.9**

6.2 In Table 6.1, the changes in the required break-even contribution rates projected at the time of the last review and those in this report have been separated into different components. In general the break-even contribution rates shown at this review are a little lower than those shown by the previous review.

6.3 This review and the previous review use the same population projection except that, for this review, an adjustment has been applied to allow for the actual population in 2009 being higher than shown in the projections made by the States' Statistics Unit. This adjustment is only made for years up to 2013, after which the population is assumed to match the Unit's projections. The effect of the adjustment is to reduce the break-even contribution rates shown in this review for years before 2013.

6.4 After allowing for the difference in the population projections, it is also apparent that actual experience in 2009 was more favourable than projected at the previous review, i.e. the contribution rate required to cover expenditure was rather less than that projected at the previous review. For example, actual expenditure in 2009 on old age pensions and incapacity benefits expressed as a proportion of total contribution income was around 65%, which is lower than the equivalent proportion projected for 2009 under the 2006 review adjusted to reflect the 2009 population projections, which was around 67%.

6.5   Various other changes that have been made to the methods and assumptions underlying the projections result in a decrease of up to about 0.5% in the break-even contribution rate.

6.6   In the report on the previous review, it was estimated that the Combined Fund balance in the Social Security and Social Security (Reserve) Funds would be extinguished by 2034 assuming net nil future migration, and by 2038 assuming future net immigration of 150 HoHs a year. The corresponding figures in this report are 2037 and 2042 respectively. These differences are the net effect of the lower break-even contribution rates (as summarised in Table 6.1) shown in this review, which has been only partially offset by the value of the Combined Funds in 2009 (as a proportion of expenditure in that year) being lower than projected at the 2006 review.

7   Appendix A: Summary of contributions and benefits

7.1   This appendix summarises the principal provisions regarding the contributions and benefits set out in the Social Security (Jersey) Law 1974 as at 31 December 2009 on which the estimates in this review have been based. Separately, Section 3 discusses forthcoming changes to pension age and the sources of funding for supplementation. I am not aware of any other material changes to the Law since that date. This summary concentrates on those aspects of contribution and benefit rules that are significant in financial terms.

Old age pensions

7.2   The current rules on the receipt of old age pensions were introduced for those claiming a pension on or after 1 April 2001[5]. Slightly different rules applied for claims made before this date.

7.3   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 upper limit – see paragraph 7.18) which could have been made over a 45 year period between school leaving age and pension age. In calculating the LACF, allowance is made for any supplementation contributions (as described in paragraph 7.18) provided in respect of the pensioner.

7.4   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. Women married before April 2001 can claim a pension of 66% of that payable to their husbands if this is more than the pension they have earned on their own contributions. Contributions of a deceased husband can be substituted for a widow's contributions only if they were married before 1 April 2001.

7.5   The pension age is 65 (but see paragraph 3.5). However, women who entered the Fund 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.

Benefits for surviving widows and widowers

7.6   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 A.1) is generally paid when a man or woman is widowed and at least one of the spouses 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. The standard rate is adjusted according to the LACF, with the LACF calculated using the date of death instead of the pension age.

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

7.7   For people widowed prior to April 2001, there were three benefits, widow's allowance, widow's pension and widowed father's allowance. The first two of these benefits correspond to survivor's allowance and survivor's pension as described above, but were paid to widows only. Widowed father's allowance was paid to widowers with children under the age of 16. Any of these benefits that were in payment at 1 April 2001 have continued to be paid subject to the same terms.

Benefits on incapacity

7.8   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.

7.9   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.

7.10   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 degree of disablement. 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.

7.11   For claims prior to October 2004, different benefits were available, i.e. disablement benefit and invalidity pension (similar to long-term incapacity allowance and incapacity pension, respectively). If these benefits were already in payment at 1 October 2004 they continued to be paid subject to the same terms.

Family benefits

7.12   A maternity grant is paid for each birth in Jersey where either the mother or her husband 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.

Bereavement benefits

7.13   A death grant is paid for all deaths in Jersey where the deceased, the surviving spouse 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.

Benefit rates

7.14   Table A.1 shows the weekly rates of benefit in force from 2006 to 2010. During this period, benefit rates have been increased annually in line with earnings growth.

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

Year from 1 October	Standard rate[6] - no dependants	Standard rate - with dependants	Married woman's old age pension	Survivor's allowance
2006	158.27	262.78	104.51	189.98
2007	165.76	275.17	109.41	198.87
2008	172.83	286.93	114.10	207.41
2009	178.01	295.54	117.53	213.64
2010	179.97	298.76	118.79	216.02

Contributions

7.15   Class 1 contributions are required from everyone in the island between school leaving age and 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 Class1 contributions pay Class 2 contributions, unless they are exempt. Class 2 contributions are paid at a flat rate (equal to the sum of the employee and employer Class 1 contribution rates multiplied by the earnings ceiling) unless the individual has elected (and is permitted) to pay earnings-related Class 2 contributions.

7.16   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.

7.17   Subject to certain rules, contribution credits are provided for students, the unemployed, the sick, survivors (i.e. people whose spouses have died) or those staying at home to care for a child.

7.18   Table A.2 shows the earnings limits which applied between 2006 and 2010. Throughout this period the total rate of Class 1 contributions payable has been 10.5%[7], of which 5.2% is paid by the employee and 5.3% by the employer. Contributions are payable on all earnings up to the upper limit. If earnings are above the threshold and below the upper limit, the difference between contributions based on actual earnings and contributions based on the upper limit is made up through supplementation. If earnings are above the upper limit, the employee's and employer's contributions are based on the amount of the upper limit only. (See also paragraph 3.3.)

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[6] For those with sufficient contributions, the standard rate is paid for old age pension, 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 degree of disablement.
[7] This excludes the 2% contribution payable to the Health Insurance Fund.

Table A.2: Earnings limits

Year	Monthly threshold (£)	Monthly upper limit (£)
2006	663	3,138
2007	685	3,242
2008	717	3,394
2009	748	3,540
2010	770	3,646

8   Appendix B: Fund accounts since 1 January 2007

8.1   The transactions of the Social Security and Social Security (Reserve) Funds in the period 1 January 2007 to 31 December 2009 are summarised in Table B.1, whilst a breakdown of expenditure by benefit is shown in Table B.2.

Table B.1: Summary of income and expenditure and balances of the Jersey Social Security and Social Security (Reserve) Funds in the period 1 January 2007 to 31 December 2009[8]; fund balances are shown at market values, as stated in the accounts

£ thousand	2007	2008	2009
	Social Security Fund		
Income			
Contribution income	133,913	144,634	151,787
States supplementation contributions	58,627	61,842	64,995
Investment return	1,513	1,878	158
Investment income transferred from Reserve Fund	5,983	-	-
Other income	105	126	192
Total income	**200,141**	**208,480**	**217,132**
Expenditure			
Benefit expenditure	155,428	164,565	172,091
Administration expenditure	6,115	7,516	7,150
Total expenditure	**161,543**	**172,081**	**179,241**
Balance at start of year	58,332	69,347	70,626
Excess of income over expenditure	38,598	36,399	37,891
Transfer to Reserve Fund	(27,583)	(35,120)	(38,585)
Balance at end of year	69,347	70,626	69,933
	Social Security (Reserve) Fund		
Balance at start of year	583,096	641,684	566,547
Investment income net of expenses	5,983	(511)	(537)
Transfer to Social Security Fund	(5,983)		
Realised and unrealised gains	31,005	(109,746)	107,294
Transfer from Social Security Fund	27,583	35,120	38,585
Balance at end of year	641,684	566,547	711,889

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[8] Figures may not sum to totals due to rounding.

Table B.1 continued

£ thousand	2007	2008	2009
	Combined Funds		
Combined balance at end of year	711,031	637,173	781,822
Mean of funds at start and end of year	676,230	674,102	709,497
Mean of funds as multiple of total expenditure	4.2	3.9	3.9
Estimated rate of investment return	5.9%	-14.8%	16.4%

8.2   Contribution income (including that from the States) exceeded expenditure in each of the years from 2007 to 2009. Over the three years 2007 to 2009, the average annual rate of investment return is estimated to have been just over 1.5% a year, although the overall return in 2008 was significantly negative. The average combined Fund balance in 2006 was equivalent to 3.9 times annual expenditure and it stayed at around this level up to 2009.

Table B.2: Expenditure on social insurance benefits in the period 1 January 2007 to 31 December 2009

£ thousand	2007	2008	2009
Old age pension	111,788	119,779	126,389
Survivor's benefits	4,634	4,791	5,101
Short term incapacity allowance	11,198	11,664	12,553
Long term incapacity allowance	9,132	10,462	11,107
Incapacity pension	85	101	130
Invalidity benefit	15,914	14,861	13,818
Maternity allowance	1,830	1,971	1,997
Maternity grant	481	507	516
Adoption grant	1	1	3
Death grant	366	428	477
Total benefit expenditure[9]	**155,428**	**164,565**	**172,091**

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[9] As shown in Table B.1.

8.3   A summary of the assets held of the Social Security Fund and the Social Security (Reserve) Fund as at 31 December 2009 is given in Table B.3.

Table B.3: Summary of the market value of the assets of the Social Security Fund and Social Security (Reserve) Funds as at 31 December 2009

	Social Security Fund		Social Security (Reserve) Fund	
	£million	%	£million	%
Unit trusts:				
UK equities	-	-	260.6	37
North America equities	-	-	130.4	18
European equities	-	-	87.5	12
Japanese equities	-	-	24.2	3
Asia-Pacific (ex Japan) equities	-	-	13.0	2
Money market	-	-	55.1	8
Liquidity fund	-	-	107.8	15
Gilts	-	-	33.2	5
Cash	21.6	31	0.2	-
Net debtors	40.0	57	(0.2)	-
Fixed assets	8.5	12	-	-
Total	**69.9**	**100**	**711.9**	**100**

9   Appendix C: Summary of data

9.1   The accuracy of the results of the review is dependent on the data on which they are based. If the data contain material inaccuracies or omissions it could have a significant effect on the results of the review. Data are used in three main areas:

> as the starting point of the projections

> to assess appropriate assumptions about the future, although it will also be necessary to take account of expected future trends

> as a validation of the projection methodology

9.2   The main source of data was the contribution and benefits data provided by the Social Security Department, and I am very grateful for their assistance with the review. The data provided covered the numbers of beneficiaries and the amounts of benefit paid, and the number of contributors and their earnings. Where possible, we have made some simple checks on the data. The data appear to be of generally good quality, and are adequate for the purposes of the review. Nevertheless, it should be noted that if any of the data used for the calculations are materially incorrect or incomplete, it could have a significant effect on the results.

9.3   The projections of the balance in the Funds have been based on the market value of the assets as at 31 December 2009 as shown in the 2009 accounts. The results for the projection of the fund balance should be seen in the context of the general volatility of market values of some classes of investment.

9.4   A summary of the membership data is set out below.

Table C.1: Summary of the average number of contributors for the years 2007 to 2009

Contribution class[10]	2007	2008	2009
Men – Class 1	24,122	24,835	24,407
Men – Secondary only	395	400	408
Men – Class 2	3,703	3,722	3,607
Women – Class 1	19,298	20,135	20,080
Women – Secondary only	3,811	3,676	3,505
Women – Class 2	483	521	555

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[10] The Class 1 and Class 2 numbers include those who are recorded as paying Class 1 or 2 and receiving contribution credits.

Table C.2: Summary of the number of beneficiaries for the years 2007 to 2009

	2007	2008	2009
Old age pensions[11]:			
Men	10,033	10,305	10,542
Women – pension based on husband's contributions	4,483	4,471	4,731
Women – pension based on own contributions	5,316	5,516	5,831
Widows – pension based on deceased husband's contributions	4,319	4,504	4,340
Incapacity benefits[12]:			
Short-term incapacity allowance – men	851	969	901
Short-term incapacity allowance – women	556	667	575
Long-term incapacity allowance (LTIA) – men	730	852	934
LTIA – women	523	605	668
Lump sum awards of LTIA – men	44	47	67
Lump sum awards of LTIA – women	19	19	38
Incapacity pension – men	6	7	8
Incapacity pension – women	1	1	1
Disablement pension – men	621	603	582
Disablement pension – women	164	157	153
Invalidity pension – men	812	715	626
Invalidity pension – women	795	722	669
Survivor benefits[13]:			
Survivor's allowance and pension – men	93	98	105
Survivor's allowance and pension – women[14]	879	883	874
Widowed father's allowance	3	2	2

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[11] These are numbers in receipt of pension in June of each year.
[12] These are numbers in receipt of the benefit at the year end, except in the case of lump sum awards of long-term incapacity allowance, which are the number of awards in the year.
[13] These are numbers in receipt of the benefit at the year end.
[14] This includes survivor's allowance and pension.

10 Appendix D: Demographic background

10.1   The population projections adopted for this review are those prepared by the States' Statistics Unit and these are the same as the projections that underlay the previous actuarial review as at 31 December 2006. The only adjustment applied to the Statistics Unit's projections is to allow for the actual population in 2009 being higher than in the projections. The population is assumed to fall back to be in line with the projections for all years from 2013. No such adjustment was applied for the 2006 review.

10.2   The Statistics Unit used the March 2001 census[15] as the starting point of the projections, which was then adjusted in line with the recorded births, deaths and migration up to the end of 2007. There are three main assumptions that are needed for the future:

> rates of mortality
> fertility rates
> migration

Each of these assumptions is discussed below.

Rates of mortality

10.3   The assumed rate of mortality in Jersey was based on the projected mortality rates for England in the 2006 population projections for the United Kingdom, published by the Office for National Statistics. 2006 projections have been used as the Jersey population projections were produced before the release of the 2008 England population projections. These projections make a significant allowance for future improvements in life expectancy. 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 D.1: Ratio of the assumed mortality rates for Jersey to the corresponding rates for England (based on the 2006 UK population projections)

Age group	Men	Women
0 to 14	100%	100%
15 to 59	110%	90%
60 to 74	95%	90%
75 and over	95%	95%

10.4   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.

10.5   The life expectancies at age 65 based on these assumptions are shown in Table D.2, according to the year in which the person attains age 65. The life expectancy at age 65 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.

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[15] The results of the next census as at March 2011 should be available over the next year and these should be used to inform updated projections.

Table D.2: Approximate life expectancy at age 65[16]

Year in which attain age 65	2010	2030	2050
Life expectancy at age 65			
Men	22 years	23 years	25 years
Women	24 years	26 years	27 years

Fertility rates

10.6 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 her reproductive life cycle.

10.7 Based on data on the numbers of births in Jersey from 2001 to 2007, it was assumed for the population projections that the total fertility rate would be 1.57 in all future years (unchanged from the previous review). This is significantly lower than the rate in rest of the UK; for example, the 2008-based principal projection for England and Wales assume that the total fertility rate in the long-term would average 1.85.

Migration

10.8 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 two different migration assumptions, as agreed with the Social Security Department. The two assumptions are:

> zero net migration in each year from 2009

> net inward migration of 150 "heads of household" a year for all years from 2009. A "head of household" (HoH) refers to the head of each family group that enters or leaves Jersey. 150 HoHs corresponds to a total number of migrants (including dependants) of 324 each year.

Projected population numbers

10.9 Summaries of the projected population by age and sex are shown at the end of this section. This allows for the adjustment made in the years up to 2013 in order to bring the projections into line with the estimated actual population in 2009. 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.

10.10 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

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[16] 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 65 in 2010 reflects the mortality rate at age 65 in 2010, at age 66 in 2011, at age 67 in 2012 etc.

reached pension age, the lower the required contribution rate (other things being equal).

10.11 The projected pattern of the PSR over the period up to 2069 is shown in Figure D.1. With no allowance for future net migration, the PSR is projected to fall from the current level of over 4 to around 1.5 in 2046, at which level it will broadly stabilise. Other things being equal, this would suggest that the pay-as-you-go contribution rate (in respect of old age pensions) would have to more than double by 2046. With allowance for migration of 150 HoHs each year the fall in the PSR is slightly less dramatic, falling to about 1.9 in 2036 and remaining at around that level up to 2066, but this still implies a very substantial increase in the pay-as-you-go contribution rate.

Figure D.1: Pensioner support ratio (that is, the number of people of working age for each person over pension age)
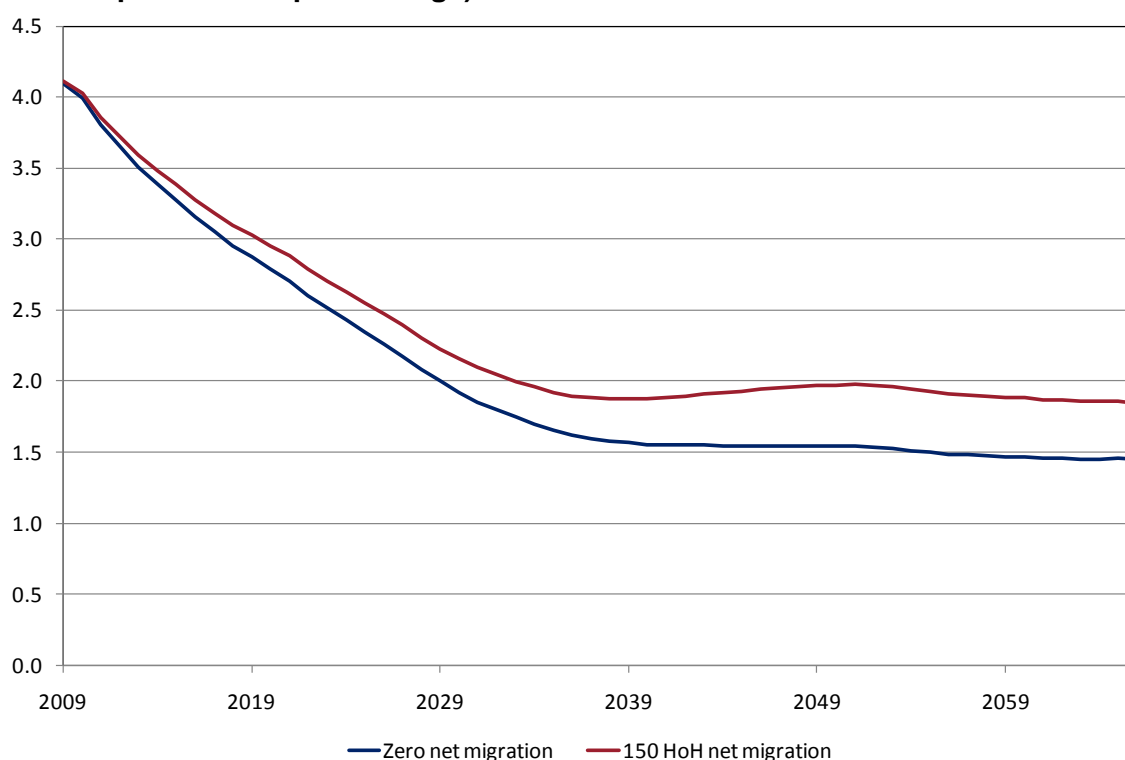
Table D.3: The projected population of Jersey at the year end from 2006 to 2066 assuming net zero future migration and the fertility and mortality assumptions described in Section 3

	2009	2014	2019	2029	2039	2049	2059	2069
Males								
0-9	4,768	4,387	3,986	3,853	3,552	3,215	2,982	2,665
10-19	5,142	4,828	4,688	3,974	3,848	3,549	3,213	2,984
20-29	4,983	5,368	5,173	4,665	3,959	3,837	3,540	3,424
30-39	5,664	4,984	5,262	5,200	4,653	3,942	3,821	3,416
40-49	7,522	6,670	5,378	5,172	5,134	4,602	3,904	3,706
50-59	6,175	6,730	7,063	5,160	5,012	4,992	4,489	3,780
60-69	4,831	5,403	5,593	6,567	4,835	4,740	4,743	4,272
70-79	3,055	3,444	4,090	4,845	5,760	4,276	4,263	4,296
80 and over	1,441	1,771	2,335	3,637	4,785	5,997	5,526	5,385
Total	**43,580**	**43,585**	**43,568**	**43,072**	**41,537**	**39,150**	**36,481**	**33,928**
Females								
0-9	4,763	4,379	3,991	3,856	3,554	3,217	2,984	2,667
10-19	4,825	4,642	4,677	3,979	3,852	3,552	3,215	2,986
20-29	4,843	5,099	4,901	4,668	3,970	3,847	3,548	3,427
30-39	6,140	5,220	5,079	4,940	4,668	3,964	3,840	3,409
40-49	7,731	7,045	5,874	5,020	4,908	4,645	3,947	3,741
50-59	6,437	7,080	7,371	5,728	4,934	4,837	4,586	3,877
60-69	5,073	5,715	6,091	7,074	5,522	4,780	4,697	4,462
70-79	3,431	3,802	4,554	5,557	6,508	5,108	4,466	4,407
80 and over	2,377	2,612	3,094	4,596	6,179	7,683	7,336	6,663
Total	**45,620**	**45,593**	**45,633**	**45,418**	**44,095**	**41,631**	**38,618**	**35,638**
Persons								
0-9	9,531	8,766	7,977	7,709	7,106	6,432	5,967	5,332
10-19	9,968	9,470	9,365	7,952	7,701	7,101	6,428	5,969
20-29	9,826	10,467	10,074	9,333	7,929	7,684	7,088	6,851
30-39	11,804	10,204	10,341	10,139	9,321	7,907	7,661	6,824
40-49	15,252	13,714	11,252	10,191	10,042	9,247	7,850	7,447
50-59	12,612	13,810	14,434	10,888	9,946	9,829	9,075	7,657
60-69	9,903	11,118	11,685	13,641	10,357	9,520	9,440	8,734
70-79	6,486	7,246	8,644	10,402	12,268	9,384	8,729	8,703
80 and over	3,819	4,382	5,429	8,233	10,964	13,679	12,862	12,048
Total	**89,201**	**89,178**	**89,202**	**88,489**	**85,633**	**80,782**	**75,100**	**69,566**
Persons								
0-15	15,352	14,365	13,631	12,440	11,674	10,625	9,738	8,856
16-64 (W)	59,349	57,746	56,051	50,693	45,109	42,578	38,883	35,647
65 and over (P)	14,500	17,066	19,520	25,357	28,849	27,579	26,478	25,063
Total	**89,201**	**89,178**	**89,202**	**88,489**	**85,633**	**80,782**	**75,100**	**69,566**
PSR (=W/P)	4.1	3.4	2.9	2.0	1.6	1.5	1.5	1.4

Table D.4: The projected population of Jersey at the year end from 2006 to 2066 assuming net future immigration of 150 heads of household each year and the fertility and mortality assumptions described in Section 3

	2009	2014	2019	2029	2039	2049	2059	2069
Males								
0-9	4,782	4,469	4,209	4,463	4,361	4,192	4,206	4,151
10-19	5,161	4,928	4,832	4,300	4,559	4,458	4,290	4,305
20-29	5,048	5,753	5,763	5,413	4,889	5,150	5,051	4,939
30-39	5,700	5,248	5,912	6,458	6,083	5,557	5,819	5,695
40-49	7,543	6,773	5,540	5,870	6,427	6,065	5,551	5,795
50-59	6,181	6,774	7,152	5,336	5,702	6,260	5,926	5,428
60-69	4,830	5,394	5,578	6,595	4,939	5,331	5,884	5,591
70-79	3,054	3,442	4,082	4,819	5,772	4,356	4,786	5,321
80 and over	1,441	1,771	2,334	3,630	4,763	5,997	5,591	5,837
Total	**43,741**	**44,552**	**45,402**	**46,884**	**47,494**	**47,366**	**47,103**	**47,062**
Females								
0-9	4,777	4,459	4,212	4,465	4,362	4,193	4,207	4,152
10-19	4,843	4,741	4,818	4,298	4,557	4,455	4,286	4,301
20-29	4,911	5,511	5,544	5,475	4,958	5,219	5,119	5,004
30-39	6,170	5,425	5,614	6,111	6,016	5,496	5,755	5,623
40-49	7,744	7,110	5,979	5,554	6,067	5,979	5,463	5,704
50-59	6,441	7,099	7,403	5,797	5,416	5,932	5,855	5,347
60-69	5,073	5,716	6,092	7,084	5,563	5,223	5,736	5,677
70-79	3,431	3,800	4,550	5,550	6,508	5,138	4,874	5,378
80 and over	2,377	2,612	3,093	4,592	6,170	7,679	7,360	7,028
Total	**45,767**	**46,473**	**47,305**	**48,925**	**49,618**	**49,312**	**48,655**	**48,212**
Persons								
0-9	9,559	8,928	8,420	8,928	8,724	8,385	8,413	8,303
10-19	10,004	9,669	9,650	8,598	9,116	8,914	8,575	8,606
20-29	9,959	11,265	11,306	10,888	9,847	10,369	10,170	9,943
30-39	11,870	10,673	11,526	12,569	12,099	11,053	11,574	11,317
40-49	15,287	13,883	11,519	11,424	12,494	12,044	11,015	11,499
50-59	12,621	13,873	14,555	11,133	11,118	12,192	11,781	10,775
60-69	9,903	11,110	11,670	13,679	10,502	10,553	11,620	11,269
70-79	6,485	7,242	8,632	10,369	12,280	9,493	9,660	10,699
80 and over	3,819	4,382	5,428	8,222	10,933	13,676	12,951	12,865
Total	**89,508**	**91,025**	**92,707**	**95,809**	**97,111**	**96,678**	**95,758**	**95,274**
Persons								
0-15	15,401	14,640	14,215	14,096	14,180	13,659	13,488	13,442
16-64 (W)	59,607	59,328	58,997	56,399	54,054	55,032	53,773	52,725
65 and over (P)	14,500	17,057	19,495	25,314	28,878	27,986	28,497	29,107
Total	**89,508**	**91,025**	**92,707**	**95,809**	**97,111**	**96,678**	**95,758**	**95,274**
PSR (=W/P)	4.1	3.5	3.0	2.2	1.9	2.0	1.9	1.8

11 Appendix E: Methodology and technical assumptions

11.1   The calculations for this review involve projecting contribution income, benefit expenditure and administration expenses over the 60 years from 2009 to 2069. 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

11.2   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, assuming that supplementation will continue to be calculated as at present (see Appendix A, paragraph 7.18). These 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.

11.3   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.

11.4   Where results are given as monetary values, they are shown in constant 2009 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.

11.5   The methodology and assumptions described in this section reflect the currently-legislated pension age of 65. However, we understand that legislation is being introduced to increase pension age from 65 to 67 over the period from 2020 to 2031 and the impact of this is illustrated separately in Appendix G.

Assumptions

11.6   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 was discussed in Appendix D 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. An explanation of how the principal assumptions were determined is given below.

11.7   The results of the review are sensitive to the assumptions adopted. Although the 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 any certainty and therefore the Fund's future experience will 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. This is discussed in section 5.

Population projections

11.8 Future expenditure has been calculated on the basis of two different population projections with differing migration assumptions (using the 2001 Jersey census and recorded births, deaths and migration up to and including 2007 as the starting point).

> Net migration of zero for all future years from 2009

> Net immigration of 150 heads of household a year for all future years from 2009

Appendix D contains further details on this, and on the method and assumptions used in the population projections.

Contribution income

11.9 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 of the numbers contributing in the past. The analysis was made on the basis of the average position throughout the year, and thus allows for the average number of seasonal workers.

11.10 The new data provided for this review covered the years 2008 and 2009. Data up to 2007 were provided for the previous review.

11.11 The data showed that over the last twenty years there has been a gradual increase in the proportion of males in the population paying Class 1 contributions, for most age groups. I have used the average proportions over the period from 2004 to 2009 as the basis for the future proportions of the population paying Class 1 contributions. This assumes that the gradual increase seen in recent years will not be reversed, but also that it will not continue in future years. The proportion of males paying Class 2 contributions has been decreasing gradually since 1993, although the fall has levelled off in recent years. It has been assumed that the proportions will stabilise at the levels seen since 2004 and therefore the future proportions of the population paying Class 2 contributions were again based on the average proportions over the period from 2004 to 2009.

11.12 The proportion of females in the population paying Class 1 contributions plus those (mainly married women) who are exempt from these contributions has been generally been increasing over the last twenty years, but has been more stable in recent years. Consistent with the approach for males, I have used the average proportions over the years 2004 to 2009 as the basis for the future proportions of the population either paying Class 1 contributions or exempt. An adjustment has been made to allow for some increase in the participation of women at the oldest ages, as a result of the increase in pension age from 60 to 65.

11.13 The proportion of the female population who are married women and have opted to be exempt from Class 1 contributions has been falling, which is consistent with the option having been removed for women who married on or after 1 April 2001. For existing optants I have assumed that the proportions will remain the same as each cohort ages up to age 55. After that I have assumed that the proportion for each cohort will decline, reflecting their gradual withdrawal from the labour market. It has been assumed that the proportion of other women who are exempt from Class 1 contributions will be stable at the average level for the years 2004 to 2009. The proportion of women who pay Class 1 contributions has been derived by subtracting the proportions that are exempt

from the total proportion who are either Class 1 contributors or who are exempt (as
described in paragraph 11.12).

11.14   For women paying Class 2 contributions the data are sparse and it is difficult to observe
clear trends, although it does appear that in recent years there has been an increase in
the proportion of women paying Class 2 contributions. We have assumed that the age-
specific proportions of self-employed females contributing would remain constant at
their average levels over the period 2004 to 2009.

11.15   A summary of the proportions of the population that are assumed to contribute is given
in the two tables below. It will be noted that the Class 1 proportion for males aged 30 to
39 is greater than 100% due to short-term migration into Jersey, i.e. seasonal workers
who enter the island and leave within a year and are not counted in the population
figures. In contrast, the Class 1 proportion for females aged 14 to 29 reduces
temporarily in 2049 due to fluctuations in the population figures themselves.

**Table E.1: Summary of the proportion of the male and female populations
assumed to be paying Class 1 or Class 2 contributions for men, or Class 2
contributions for women; these proportions are the same for all years**

Age group	Men – Class 1	Men – Class 2	Women – Class 2
14 to 29	88%	1.1%	0.3%
30 to 39	100.9%	8.2%	1.7%
40 to 49	79%	16.7%	2.3%
50 to 59	63.8%	23.0%	2.5%
60 to 69	21.7%	9.1%	0.2%

**Table E.2: Summary of the proportion of the female population assumed to be
paying Class 1 contributions for sample years**

Age group	2009	2029	2049	2069
14 to 29	80.5%	85.3%	84.1%	84.8%
30 to 39	81.3%	84.1%	84.4%	84.4%
40 to 49	63.2%	75.9%	75.9%	75.9%
50 to 59	48.0%	59.9%	62.5%	62.8%
60 to 69	4.3%	10.6%	14.2%	13.8%

11.16   Future contribution income was projected by combining the future numbers of
contributors, estimated in line with the methods described above, with distributions of
earnings levels by age and sex, based on data for 2009. Allowance was made for the
effect of the contribution limits.

Old age pension

11.17   The projected cost of 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.
These 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, and

also the average proportion of the standard rate of benefit that will be paid. Since non-residents are included, it is possible for the factors to be in excess of one. 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.

11.18 Over the three years from 2007 to 2009, the data showed that the factor[17] applicable to men aged 65 to 69 was around 85%. A lower percentage, of about 30%, applied at ages 63 and 64, which reflects that only some individuals will choose to claim their pension early. However, based on an analysis of the data on the actual past contribution records of members together with an allowance for projected future contributions, a factor higher than 85% would theoretically be expected, assuming everyone claims their pension.

11.19 For this review, it has been assumed that the factors will gradually rise from current levels up to 100% for those reaching age 65 in 2033 and later, which is consistent with the assumption adopted for the review as at 31 December 2006. The factors at ages 63 and 64 are assumed to remain constant at the average level over 2007 to 2009. The assumptions therefore make allowance for an increase in the level of old age pension claims as a proportion of the population, although it will remain less than the theoretical level. Such an increase might, for example, reflect an increased probability that non-residents will claim their pensions.

11.20 An allowance has been made for a proportion of recipients to qualify for a benefit increase in respect of dependants, principally at ages up to 70, based on data for 2009. However, these increases are only paid in respect of pre-April 2001 marriages so the proportion eligible to receive it reduces in the future.

11.21 Women have greater scope for qualifying for pension than men do: women can be entitled to an old age pension from their own, or from their husband's or deceased husband's, contribution records.

11.22 The factor[18] used to assess the costs of pensions for women who qualify on the basis of their husband's or deceased husband's contributions were calculated by taking a proportion of the factor assumed for men. The proportion was derived using actual data for 2007 to 2009. These long-term factors are phased in from 2020; prior to this, the factors were chosen as a blend of the long-term assumption and the factor indicated by data for 2009. The factors below age 63 were assumed to run off to zero by 2017, reflecting the shift to pension age 65 for all women. Furthermore, it is only possible for women who were married before April 2001 to rely on their husband's contribution record and therefore the factors for this group are assumed to decline steadily.

11.23 The factor applied to women who qualify for pension based on their own contributions was calculated by making an assumption about the factors for women as a whole and then deducting the factors for women who qualify on the basis of their husband's contributions (as described in paragraph 11.22). It was assumed that, in the long-term, the overall factor for all women would be 102% at age 70 and over, that is, slightly above that for males (100%), reflecting the fact that women have more methods of being entitled to pension. The 102% assumption is consistent with that made at the previous review.

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[17] These are factors described in paragraph 11.17 which reflect the proportion of the population that claim a pension and the rate of the pension as a percentage of the standard rate.
[18] These are factors described in paragraph 11.17 which reflect the proportion of the population that claim a pension and the rate of the pension as a percentage of the standard rate.

11.24 A lower factor of 97% is applied at ages below 70 because women are less likely to be widows at those ages. These long-term rates were blended into the actual factors for 2009 over the period up to 2033, while the factors under age 63 again reduce to zero by 2017. Finally, an adjustment was applied to allow for the fact that women who were married in April 2001 or later will have to claim a pension on their own contribution record and this may tend to result in a less generous pension than if they were able to rely on their husband's contributions.

Survivor's benefit

11.25 Age specific future awards of survivor's benefit were projected by multiplying the projected number of deaths of married people from the population projection by the assumed number of awards per death of a married person (which was based on experience over the period 2007 to 2009). The proportion of the population who are married was assumed to vary in line with changes projected for England and Wales. The number of beneficiaries in future years was obtained by projecting the current beneficiaries along with the estimated future awards, using rates of termination of benefit derived having regard to recent data.

11.26 The projected costs of survivor's benefit (including any remaining widow's benefit and widowed father's allowance) 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. This factor was based on the average proportion of benefit paid during 2007 to 2009. Allowance was made for survivor's allowance being paid at a higher rate than survivor's pension.

Incapacity benefits

11.27 Expenditure on short-term incapacity allowance was projected by taking the projected number of contributors and multiplying by the age and sex specific 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.

11.28 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 three years 2007 to 2009.

11.29 Age specific future awards of long-term incapacity allowance 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 projecting the current beneficiaries with the estimated future awards, using assumed rates of termination of benefit. 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 2007 to 2009.

11.30 The cost of long-term incapacity allowance where the degree of disability is less than 20% (which is paid as a lump sum) was projected separately.

11.31 At the previous review, it was noted that the number of awards of incapacity pension had been very low. This experience has continued and on average there were only 2

cases per year over 2007 to 2009. However, as people become more familiar with the new incapacity benefits, it is possible that there will be an increase in the number of awards of incapacity pension, particularly given that it tends to be a more generous benefit than long-term incapacity allowance. I have therefore assumed, as for previous review, that the number of awards would be equal to 5% of the awards of long-term incapacity allowance. The rate of awards is assumed to build up to this level over the period to 2014. The projected cost of these pensions has then been estimated in a similar way as for long-term incapacity allowance.

11.32 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, having regard to data over the period 2007 to 2009. The average rate of termination of these benefits is about 10% a year in the case of invalidity benefit and 3% a year for disablement benefit.

11.33 A summary of some of the key assumptions for incapacity benefits is shown in the following table.

Table E.3: 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 2009

	Men	Women
Short-term incapacity benefit:		
Average number of days of benefit paid in year per contributor	10.5	11.3
Average proportion of full rate of benefit	0.97	0.97
Long-term incapacity allowance		
Average number of awards in year per 1,000 contributors	7.4	7.1
Average proportion of full rate of benefit	0.55	0.55
Incapacity pension:		
Average number of awards in year per 1,000 contributors (from 2014)	0.37	0.36
Average proportion of full rate of benefit	1.00	1.00

Maternity benefits

11.34 The cost of maternity allowance per birth, as a multiple of the benefit rate, has fluctuated in a fairly narrow range in recent years. The projected cost of maternity allowance was therefore calculated by multiplying the average cost per birth, as a multiple of the benefit rate, over the three years 2007 to 2009 by the full benefit rate and by the projected number of births from the population projection. 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 three years to 2009.

Death Grant

11.35 The cost of death grants per death, as a proportion of the full benefit rate, has fallen in the last five years. The future expenditure on death grants was calculated by multiplying the average cost per death, as a proportion of the full benefit rate, over the period 2007 to 2009 by the full benefit rate and by the projected number of deaths from

the population projection. This approach assumes that the recent fall in the benefit per death is sustained but that there is no further fall in future years.

Administration and general expenses

11.36 The cost of administration relates to both the collection of contribution income and the processing of benefit claims and appears to be related to the level of benefit expenditure. Since 2004, there appears to have been an increase in the level of administration expenditure as a proportion of benefit expenditure, although it has varied significantly from year to year. As agreed, it has been assumed that administration costs in future years will be the same proportion of total benefit expenditure as over the period 2007 to 2009, when it averaged 4.4% of benefit expenditure.

Economic assumptions and fund projections

11.37 In making the projections in this report, it is assumed that all benefit rates, the earnings ceiling and the threshold for supplementation will be increased in future in line with earnings. The results, where shown in monetary terms, have therefore been shown in constant 2009 earnings terms. This means that assumptions for inflation and real earnings growth are not required for the review.

11.38 The total return on the combined Funds, net of associated expenses, is assumed to be 2% above earnings increases. In practice, the investment returns achieved by the combined Funds, net of earnings inflation, have been volatile. For example, the return net of earnings inflation over the ten years from 2000 to 2009 is estimated to have averaged around minus 1.75% a year, whereas the equivalent return over the period from 1992 to 2009 is estimated to have averaged about plus 2.75% a year.

11.39 Real yields on long-dated UK Government index-linked gilts, which may be considered as the lowest risk asset for the Fund, stood at just about 1% a year at the end of 2009. Assuming real earnings growth of 1.5% a year means that these assets would not generate any positive return relative to earnings rises.

11.40 In practice, most of the assets of the Funds are held in equities, which, although they carry more risk, should also, over the long-term, generate higher returns relative to "risk-free" investments (this is known as the "equity risk premium"). However, estimates of the size of the equity risk premium vary widely.

11.41 There is clearly a great deal of uncertainty over the likely level of future investment returns. To help indicate the uncertainty, Section 5 shows the impact of assuming that investment returns are 2% a year higher or lower than the assumption for the main results.

11.42 We understand that the long term investment strategy of the Fund is currently under review, with the intention of updating the long term strategic aim of holding 10% of assets in property to reflect alternative investments instead, with transitional arrangements and adjustments to the operating ranges also under consideration. The results in this report do not allow for these intentions. If the revised investment strategy leads to an increase in investment income this would lengthen the period until the Reserve Fund is extinguished.

12 Appendix F: Summary of projections

Table F.1: Summary of income and expenditure and the projected combined balance in the Social Security and Social Security (Reserve) Funds in 2009 earnings terms and assuming net nil future migration[19]

£ thousand	2009[20]	2014	2019	2029	2039	2049	2059	2069
Opening fund balance	**637,173**	**935,837**	**1,034,026**	**786,880**	**0**	**0**	**0**	**0**
Contribution income	216,782	202,480	197,741	180,752	163,568	153,168	140,132	128,468
Investment return	107,644	18,805	20,541	14,906	0	0	0	0
Total income	**324,426**	**221,285**	**218,282**	**195,658**	**163,568**	**153,168**	**140,132**	**128,468**
Benefit expenditure	172,091	185,429	202,797	253,154	284,264	275,558	265,447	250,227
Admin expenditure	7,687	8,208	8,976	11,205	12,582	12,197	11,749	11,076
Total expenditure	**179,778**	**193,637**	**211,773**	**264,359**	**296,846**	**287,755**	**277,197**	**261,303**
Excess of income over expenditure	144,648	27,648	6,509	-68,701	-133,279	-134,588	-137,065	-132,835
Closing fund balance	**781,821**	**963,485**	**1,040,535**	**718,179**	**0**	**0**	**0**	**0**

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[19] Figures may not sum to totals shown due to rounding.
[20] The figures for 2009 are the actual figures taken from the accounts. In particular, this gives a much larger figure for investment income since it is not net of earnings increases.

Table F.2: Summary of income and expenditure and the projected combined balance in the Social Security and Social Security (Reserve) Funds in 2009 earnings terms and assuming net future immigration of 150 HoHs a year[21]

£ thousand	2009[22]	2014	2019	2029	2039	2049	2059	2069
Opening fund balance	**637,173**	**948,170**	**1,091,010**	**1,033,939**	**314,846**	**0**	**0**	**0**
Contribution income	216,782	208,919	210,208	204,504	198,755	200,505	196,373	192,444
Investment return	107,644	19,111	21,796	20,060	5,269	0	0	0
Total income	**324,426**	**228,030**	**232,004**	**224,565**	**204,024**	**200,505**	**196,373**	**192,444**
Benefit expenditure	172,091	185,813	203,632	255,347	289,294	286,679	292,062	295,961
Admin expenditure	7,687	8,225	9,013	11,302	12,805	12,689	12,927	13,100
Total expenditure	**179,778**	**194,038**	**212,645**	**266,649**	**302,099**	**299,368**	**304,990**	**309,061**
Excess of income over expenditure	144,648	33,993	19,359	-42,084	-98,076	-98,864	-108,616	-116,617
Closing fund balance	**781,821**	**982,163**	**1,110,369**	**991,855**	**216,771**	**0**	**0**	**0**

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[21] Figures may not sum to totals shown due to rounding.
[22] The figures for 2009 are the actual figures taken from the accounts. In particular, this gives a much larger figure for investment income since it is not net of earnings increases.

Table F.3: Summary of benefit expenditure in 2009 earnings terms and assuming net nil future migration[23]

£ thousand	2009[24]	2014	2019	2029	2039	2049	2059	2069
Old age pension	**126,389**	**142,426**	**160,444**	**214,465**	**250,963**	**244,340**	**237,411**	**224,882**
Survivor's benefit[25]	**5,101**	**5,176**	**4,955**	**3,956**	**2,642**	**2,335**	**1,896**	**1,557**
Invalidity benefit	13,818	7,540	4,047	971	115	1	0	0
Short-term incapacity allowance	12,553	11,676	11,606	10,751	9,714	9,231	8,396	7,667
Long-term incapacity allowance	11,107	12,483	15,484	17,284	16,065	15,540	14,174	12,963
Incapacity pension	130	462	1,084	1,519	1,416	1,396	1,274	1,165
Total incapacity	**37,608**	**32,162**	**32,221**	**30,526**	**27,310**	**26,167**	**23,844**	**21,795**
Maternity allowance	1,997	1,581	1,556	1,467	1,348	1,213	1,144	1,024
Maternity grant	519	410	403	380	349	314	296	265
Total maternity	**2,516**	**1,991**	**1,959**	**1,847**	**1,697**	**1,527**	**1,440**	**1,289**
Death grant	**477**	**489**	**491**	**566**	**670**	**729**	**721**	**685**
Total expenditure	**172,091**	**182,244**	**200,070**	**251,360**	**283,282**	**275,098**	**265,312**	**250,208**

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[23] Figures may not sum to totals shown due to rounding.
[24] The figures for 2009 are the actual figures taken from the accounts, supplemented with additional ledger information provided by the Jersey Social Security Department.
[25] Including survivor's benefit and widowed father's allowance.

Table F.4: Summary of benefit expenditure in 2009 earnings terms and assuming net future immigration of 150 HoHs a year[26]

£ thousand	2009[27]	2014	2019	2029	2039	2049	2059	2069
Old age pension	**126,389**	**142,359**	**160,231**	**214,118**	**251,299**	**248,079**	**254,951**	**260,189**
Survivor's benefit[28]	**5,101**	**5,187**	**4,991**	**4,081**	**2,922**	**2,846**	**2,483**	**2,157**
Invalidity benefit	13,818	7,540	4,047	971	115	1	0	0
Short-term incapacity allowance	12,553	11,961	12,173	11,924	11,594	11,893	11,582	11,330
Long-term incapacity allowance	11,107	12,492	15,642	18,004	17,906	18,810	18,322	17,829
Incapacity pension	130	468	1,110	1,612	1,608	1,721	1,683	1,636
Total incapacity	**37,608**	**32,461**	**32,972**	**32,512**	**31,223**	**32,424**	**31,587**	**30,795**
Maternity allowance	1,997	1,665	1,731	1,770	1,705	1,655	1,680	1,636
Maternity grant	519	431	449	459	442	429	435	424
Total maternity	**2,516**	**2,096**	**2,180**	**2,229**	**2,147**	**2,084**	**2,115**	**2,060**
Death grant	**477**	**524**	**533**	**614**	**721**	**786**	**791**	**741**
Total expenditure	**172,091**	**182,627**	**200,907**	**253,554**	**288,312**	**286,219**	**291,927**	**295,942**

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[26] Figures may not sum to totals shown due to rounding.
[27] The figures for 2009 are the actual figures taken from the accounts, supplemented with additional ledger information provided by the Jersey Social Security Department.
[28] Including survivor's benefit and widowed father's allowance.

Table F.5: The estimated future contribution income in 2009 earnings terms based on current contribution rates and assuming zero net future migration[29]

£ thousand	2009[30]	2014	2019	2029	2039	2049	2059	2069
Class 1								
Primary		61,583	60,334	55,640	50,618	47,168	43,220	39,656
Secondary		66,593	64,491	58,566	52,730	49,057	45,060	41,344
Supplementation[31]		56,088	55,095	50,911	46,140	43,293	39,633	36,483
Total		**184,264**	**179,921**	**165,117**	**149,488**	**139,517**	**127,914**	**117,483**
Class 2								
Primary		13,994	13,675	12,013	10,813	10,486	9,384	8,439
Supplementation		4,222	4,145	3,622	3,267	3,164	2,835	2,546
Total		**18,216**	**17,821**	**15,635**	**14,080**	**13,650**	**12,219**	**10,985**
All classes								
Primary	151,787	75,577	74,010	67,653	61,430	57,654	52,604	48,095
Secondary		66,593	64,491	58,566	52,730	49,057	45,060	41,344
Supplementation	64,995	60,310	59,241	54,533	49,407	46,457	42,468	39,029
Total	**216,782**	**202,480**	**197,741**	**180,752**	**163,568**	**153,168**	**140,132**	**128,468**

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[29] Figures may not sum to totals shown due to rounding.
[30] The figures for 2009 are the actual figures taken from the accounts. A detailed breakdown between classes was not available.
[31] See paragraph 3.3.

Table F.6: The estimated future contribution income in 2009 earnings terms based on current contribution rates and assuming net future immigration of 150 HoHs a year[32]

£ thousand	2009[33]	2014	2019	2029	2039	2049	2059	2069
Class 1								
Primary		63,630	64,331	63,253	61,741	61,942	60,769	59,625
Secondary		68,695	68,576	66,331	64,090	64,218	63,174	61,965
Supplementation[34]		58,132	58,970	57,950	56,317	56,954	55,775	54,674
Total		**190,457**	**191,877**	**187,534**	**182,148**	**183,115**	**179,718**	**176,264**
Class 2								
Primary		14,180	14,058	13,024	12,743	13,347	12,779	12,417
Supplementation		4,282	4,273	3,946	3,864	4,043	3,877	3,763
Total		**18,461**	**18,330**	**16,970**	**16,607**	**17,390**	**16,656**	**16,180**
All classes								
Primary	151,787	77,810	78,389	76,277	74,484	75,289	73,547	72,042
Secondary	0	68,695	68,576	66,331	64,090	64,218	63,174	61,965
Supplementation	64,995	62,413	63,243	61,896	60,181	60,997	59,652	58,437
Total	**216,782**	**208,919**	**210,208**	**204,504**	**198,755**	**200,505**	**196,373**	**192,444**

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[32] Figures may not sum to totals shown due to rounding.
[33] The figures for 2009 are the actual figures taken from the accounts. A detailed breakdown between classes was not available.
[34] See paragraph 3.3.

13   Appendix G: Letter on the impact of changing the pension age

GAD
GOVERNMENT **ACTUARY'S** DEPARTMENT

Reference:

STRICTLY PRIVATE AND CONFIDENTIAL

Ms Sue Duhamel
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PO Box 55
Philip Le Feuvre House
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JE4 8PE

6 June 2011

Dear Sue

Further results on the impact of increasing pension age in the Social Security Fund

In my letter of 24 May 2011, we provided figures on the cost implications of increasing pension age to 67, using the actuarial review of the Social Security Fund as at 31 December 2006 as the baseline. As requested, we have now calculated similar figures but using the results of the draft actuarial review as at 31 December 2009 as the baseline. You should note that the draft 2009 actuarial review excludes the effect of any pension age changes.

Results

The results of our calculations to assess the financial impact of the proposed increase in pension age up to 67 are set out in the appendix to this letter. The results, for selected years up to 2069, show:

> the "break-even" contribution rates; 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 in each year

> the year in which the Funds[1] are projected to be extinguished assuming the current rates of contribution are maintained

> the projected expenditure on retirement pensions in constant 2009 earnings terms

We have only given results based on the assumption of immigration of 150 heads of household each year since only this scenario was considered in the paper setting out the proposals to the States.

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[1] The Funds refers to the balance in the Social Security Fund and Social Security (Reserve) Fund combined.

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For comparison, the appendix also shows the corresponding figures on the current pension ages and these figures are the same as those set out in the draft report dated 3 June 2011 on the actuarial review as at 31 December 2009.

The data and assumptions used for the calculations are the same as those used for the actuarial review as at 31 December 2009, apart from any changes to the assumptions needed to reflect the pension age proposals.

The results in this letter should be read in conjunction with the draft report on the actuarial review. This gives more information on the data, methodology and assumptions used in the calculations, and the reliances and limitations that apply.

Commentary

A paper from the Minister was lodged au Greffe on 14 April 2011 detailing a proposal to increase pension age together with a number of related changes. Please note that we have not attempted to check any of the figures included in that paper.

Section 7 of the paper makes a number of proposals:

i. Pension age should be increased from 65 to 67 over the period from 2020 to 2031; in particular those born before 1 January 1955 would retain a pension age of 65, while those born on or after 1 March 1964 would have a pension age of 67.

ii. The period over which the lifetime average contribution factor (LACF) is calculated should be increased from 45 years to 47 years in line with the increase in pension age.

iii. The option to take a pension before pension age should remain, but would be limited to the two years before the revised pension age.

iv. Individuals should be given the option of receiving an enhanced pension if they delay claiming it until after pension age, although the details of this have not yet been finalised.

v. The option for people aged 60 and over who have retired to cease making social security contributions should be reviewed.

The results given in the appendix to this letter show the effect of proposals i to iii, but no allowance been made for proposal iv as it is not yet finalised. For the purpose of proposal v, it has been assumed that the current option for retired individuals to stop contributing from age 60, will be retained but will apply from the age five years before the revised pension age.

The number of people at ages 63 to 66 can vary significantly from year to year. This means that the savings resulting from increasing pension age will also vary significantly and this should be borne in mind in interpreting the results.

An assumption needs to be made about the impact that the increase in pension age has on participation rates, that is, the proportion of the population contributing to the Fund. In theory, an increase in pension age would be expected to lead to increased participation at older ages. On the other hand, participation rates may not increase to the extent that individuals do not extend their working lives in line with the higher pension age (for example because they have the financial resources to retire earlier). However, in practice for the Jersey Fund, it may be difficult for individuals to avoid contributing for longer since Class 2 contributions remain payable even where someone retires (except for those who take up the option to cease contributions – see proposal v above).

For the purpose of our calculations we have made two illustrative assumptions regarding the changes in participation rates as result of the pension age increase:

(a)   **Higher participation**: Participation rates rise in line with the increase in pension age: therefore when pension age increases to 66, the rate of participation that previously applied at age 64 will be assumed to apply at age 65, and similarly the previous participation rate at age 63 will apply at age 64 etc, down to age 60. This assumption implies a general increase in the contributions paid to the Fund. It is also assumed that the greater numbers of contributions paid balances the increase in the LACF averaging period such that overall there is no change in the average levels of pensions.

(b)   **Constant participation**: Participation rates are unchanged for ages up to 64 and for higher ages (up to the pension age) the participation rates are constant at the rate for age 64. Although this will to some extent increase contributions payable to the Fund, the increase will be much less than under assumption (a) above. In practice, this may tend to understate the level of participation because those who retire after 60 but more than five years before pension age would no longer have the option of ceasing contributions. Therefore even if there is no change in the age at which retirements occur there might be some increase in the level of Class 2 contributions payable. For this scenario, it is assumed that average retirement pensions will reduce as a result of the increase in the averaging period for the LACF, by just over 3% for those with pension age 67.

These assumptions should be regarded as indicative only, since it is difficult to predict the impact a change to pension age will have on participation rates and the LACF, especially given the complicating factor of migration.

Although this letter considers the impact on the Social Security and Social Security (Reserve) Funds, you should be aware that the changes to pension age will also affect the Health Insurance Fund.

If you would like to talk through the results, please give me a call.

Yours sincerely

James Thompson
Actuary

cc: Mark Richardson, Jersey Social Security Department

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APPENDIX

Revised results for the break-even contribution rates, the year the Funds (the Social Security Fund and the Social Security (Reserve) Fund combined) are extinguished and the expenditure on retirement pensions in constant 2009 earnings terms:

- assuming that the pension age is raised to 67 and also showing the results on the current pension age for comparison
- assuming that the averaging period for the LACF is increased in line with pension age
- assuming 150 heads of household immigration each year

Year	Break-even contribution rates (%)			Expenditure on retirement pensions in constant 2009 earnings terms (£ million)		
	Current pension age	Pension age raised to 67		Current pension age	Pension age raised to 67	
		Higher participation	Constant participation		Higher participation	Constant participation
2009	8.7	8.7	8.7	131.6	131.6	131.6
2014	9.8	9.8	9.8	142.4	142.4	142.4
2019	10.6	10.5	10.6	160.2	159.1	159.0
2029	13.7	12.3	12.4	214.1	192.1	190.4
2039	16.0	14.7	14.6	251.3	233.1	228.2
2049	15.7	14.5	14.3	248.1	231.4	224.7
2059	16.3	14.9	14.7	255.0	235.6	227.7
2069	16.9	15.4	15.2	260.2	241.3	233.2
Year in which the Funds are extinguished[2]	2042	2049	2049			

Notes

1. This table shows the effect of increasing pension age steadily from 65 for those reaching pension age in 2019 or before, to 67 for those reaching pension age in 2031 or later. Equivalent figures based on the current pension ages are also shown and these correspond to the results in the draft report dated 3 June 2011 on the actuarial review of the Social Security Fund as at 31 December 2009.

2. The table should be read in conjunction with the draft report on the actuarial review, and is subject to the same reliances and limitations.

3. The break-even contribution rate is the rate that would be required in order for contribution income to equal expenditure on benefits and administration costs in each year.

4. Higher participation refers to the assumption that working lives will increase broadly in line with the increase in pension age, while constant participation refers to the assumption that the increase in pension age will lead to only a limited extension in working lives.

[2] This assumes that the current contributions are maintained.

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