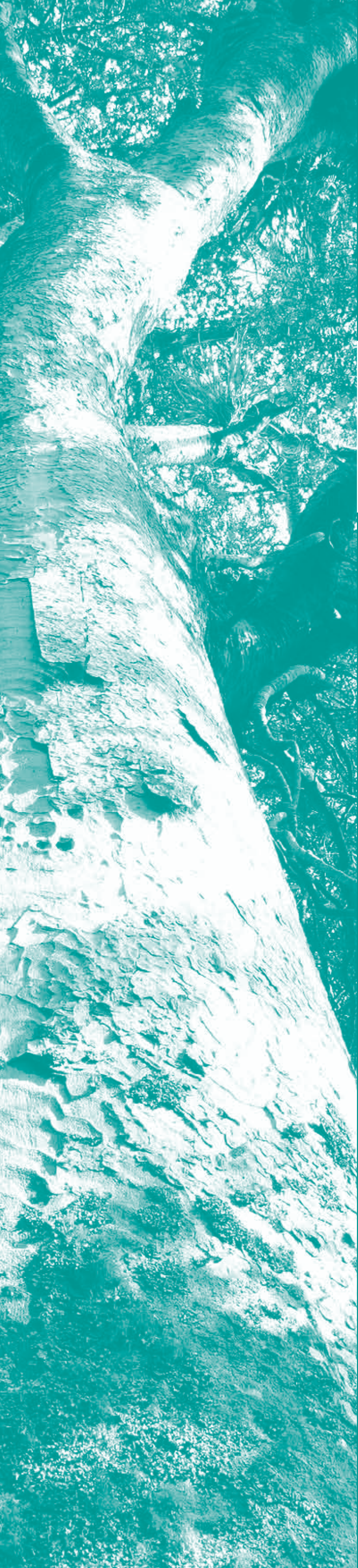

Report on the

GOVERNMENT SUPERANNUATION FUND
Te Pūtea Penihana Kāwanatanga

ACTUARIAL VALUATION
as at 30 June 2012

2012

Presented to the House of Representatives pursuant to section 94 of the Government Superannuation Fund Act 1956

CONTENTS

1. INTRODUCTION

This Report has been prepared for the Government Superannuation Fund Authority (**the Authority**). Limitations relating to the use of this Report are set out in Section 10.

The previous actuarial valuation report, as at 30 June 2011, was prepared by the then Government Actuary, David Benison FNZSA, FIA. The position of Government Actuary no longer exists effective 1 October 2011. Fintan Thornton FNZSA, FIAA, of Russell Investments, was appointed as Actuary to the Authority with effect from 1 October 2011. Emma Brodie FNZSA, FIAA then replaced Fintan as Actuary to the Authority with effect from 2 December 2011.

The requirement for actuarial valuations of the Government Superannuation Fund (**the Fund**) is set out under Section 94 of the Government Superannuation Fund Act 1956 (**the Act**). This states that the Authority must obtain an actuarial report that examines the financial position of the Fund as at dates determined by the Minister of Finance but no more than three years apart.

The report must show the financial position of the Fund as at the valuation date and the probable annual contributions required by the Fund to provide benefits falling due within the next three years without affecting or having recourse to the actuarial reserve in relation to the contributor's contributions.

Under Section 95 of the Act the Authority must certify, after receiving advice from an actuary, as to the share of benefit payments to be met from the Fund assets. The Authority must also certify, after receiving advice from an actuary, the payments to be made to the Fund by employers whose employees are paid from money that is not public money ('funding employers').

Therefore, the purpose of this Report is to:

1. evaluate the unfunded liability of the Fund in respect of past service as at 30 June 2012;
2. calculate the proportion of benefits payable from the Fund that is to be met from the Fund assets;
3. calculate the probable annual contributions required by the Crown to cover a proportion of the benefits payable over the next five years; and
4. make recommendations in respect of contributions to the Fund to be made by employers of contributors to the Fund with effect from 1 July 2013.

Our report provides a summary of the data used to calculate the above results, details of the assumptions adopted and a summary of the benefit design for each of the schemes within the Fund.

2. THE FUND

The Fund is established under the Government Superannuation Fund Act 1956, as amended from time to time, which governs a number of separate superannuation schemes. The schemes are registered under the Superannuation Schemes Act 1989 but are exempt from the provisions of sections 7 to 22 of the Superannuation Schemes Act 1989.

The Schemes established under the Act are:

Scheme	Part of the Act
Government Service Superannuation (Old General)	Part 2
New Government Service Superannuation (New General)	Part 2A
Armed Forces Scheme	Part 3A
Judges and Solicitor-General Scheme	Part 5A
Parliamentary Scheme	Part 6
Police Scheme	Part 6A
Prisons Scheme	Part 6B

Members under Part 2 or Part 2A of the Act who are or were employed by the Public Services of the Cook Islands, Niue or Tokelau are valued separately and described as 'Islands' in this report.

The Judges and Solicitor-General Scheme and the Parliamentary Scheme are managed on a fully pay-as-you-go basis. The remainder of the schemes are managed on a partially funded basis. Contributions from members and funding employers (employers whose employees are paid from money which is not public money) are paid into the Fund and invested. For non-funding employers the employer contributions are paid to the Crown.

Benefits are paid partly from the assets of the Fund and partly by the Crown.

The level of employer contributions and the proportion of the benefits payable from the Fund assets are reviewed at each statutory valuation of the Fund.

The schemes have been closed to new members since 1 July 1992, apart from Islands members who were able to join up until 1995.

3. MEMBERSHIP DATA

The membership data required to produce our actuarial calculations was provided by the Fund Administrator, Datacom Employer Services Limited, and is effective as at 30 June 2012. Key summary membership statistics are provided in Appendix A.

Where possible, we placed checks on the data to ensure internal consistency. Our checks highlighted some minor inconsistencies in the data, which were queried with the Fund Administrator and the data was updated as a result.

At 30 June 2012, there were 7,636 contributors with total salaries of $699.0 million. There were 46,638 current pensioners with total pensions of $813 million and 5,677 deferred pensioners.

We did not perform data checks in respect of the groups of members commonly known as Inactives(1) and Inactives(2). More information on these groups is set out in Appendix A. These are members who have ceased contributing to the Fund, but have not yet received an entitlement, and for whom insufficient data is available. The impact on the overall liabilities of the Fund from these two inactive groups is modest in relative terms and therefore we are comfortable to make an approximation in the 30 June 2012 valuation. There were 4,817 Inactives(1) and Inactives(2) members as at 30 June 2012. Movements in membership of the contributors and inactives groups of the Fund by scheme are shown below.

	30 June 2011	**Retirements**	**Withdrawals**	**Transfers**	**Deaths**	**Ill health**	**30 June 2012**
Armed Forces	221	74	2	0	0	0	145
General (ex Islands)	11,927	751	52	11	12	7	11,095*
Islands	758	20	8	0	1	0	729
Police	408	25	0	1	0	3	379
Prisons Service	91	5	2	0	1	0	83
Judges	15	2	0	0	0	0	13
Parliamentary	13	4	0	0	0	0	9
Total	**13,433**	**881**	**64**	**12**	**14**	**10**	**12,453**

* There is one General Scheme contributor in the 30 June 2012 data who was not present in the 2011 data.

The movements in the contributor and inactives data for the 2011/12 year are summarised below.

30 June 2011 category (From)		**30 June 2012 category (To)**			
		Contributor	Inactives(1)	Inactives(2)	Exits
Contributor	8,551	7,547*	137	27	841
Inactives(1)	2,081	87	1,870	1	123
Inactives(2)	2,801	2	2	2,780	17
Total	**13,433**	**7,636**	**2,009**	**2,808**	**981**

* There is one General Scheme contributor in the 30 June 2012 data who was not present in the 2011 data.

The movements in the pensioner membership, including deferred pensioners, over the year were as follows.

Pensioners at 30 June 2011	52,714
Less pensioners ceasing to receive pensions	2,029
Plus new pensioners commencing	1,630
Pensioners at 30 June 2012	52,315

The data we received was sufficient to carry out this valuation of the Fund.

4. FUND ACCOUNTS AND ASSETS

ASSETS

The net assets of the Fund had a market value of $3,017 million at 30 June 2012. This figure was obtained from the audited financial statements as at 30 June 2012 provided by the Authority. The information includes the market value of the Fund assets, contributions, benefit payments and expenses information over the period since 30 June 2011.

Asset values in respect of prior years have been taken from the audited accounts included in the Annual Report of the Fund.

The transactions of the Fund for the year ending 30 June 2012, together with the prior year's figures for comparative purposes, are summarised in the following table:

Year ending 30 June	**2011 $million**	**2012 $million**
Opening balance	2,947	3,159
Plus:		
Member contributions	55	50
Funding employers	23	23
Government subsidies	663	699
Investment income	420	25
Less:		
Pensions paid	774	839
Commutations	82	48
Refunds and payments on death	8	10
Tax provision	84	42
Closing balance	**3,159**	**3,017**

The accuracy of our results is dependent upon the accuracy of the underlying data provided. We are confident of the sufficiency and reliability of the information provided for the purposes of this report. We consider that the use of the market value of assets is consistent with the assumptions used in determining the discount rate for valuing liabilities. There are no contingent liabilities.

INVESTMENTS

The Authority, under the Government Superannuation Fund Amendment Act 2001, is responsible for investing the assets in a prudent, commercial manner. The Authority has set an Investment Performance Measure of 2.5% above the New Zealand Government Stock Return Index (after tax) measured over rolling 10 year periods. In conjunction with the performance measure, the Fund has a risk parameter of no more than a 10% chance in any one year of a loss after tax greater than 9% of assets.

The Authority has determined that the long term strategic asset allocation (also known as the Target Portfolio) for the investments of the Fund from August 2012 is:

Asset Class	Proportion
New Zealand equities	9.3%
International equities	50.5%
Fixed interest	20.0%
Commodities	4.2%
Global tactical asset allocation	3.0%
Insurance Linked Assets	6.0%
Multi Asset Class	7.0%
Total	**100.0%**

At 30 June 2012 the assets of the Fund were invested as follows:

Asset Class	$million	Proportion of total assets at 30 June 2012	Proportion of total assets at 30 June 2011
New Zealand equities	266	8.8%	10.7%
International equities	1,175	39.0%	39.5%
Property	137	4.6%	4.8%
Fixed interest	690	22.9%	22.4%
Commodities	109	3.6%	3.3%
Multi asset and global tactical asset allocation	320	10.6%	10.1%
Insurance Linked Assets	211	7.0%	3.4%
Short term investments and cash	108	3.6%	5.8%
Total	**3,017**	**100%**	**100%**

The asset allocation at 30 June 2012 was within the allowable range for each asset class as specified in the investment policy which was current at that date.

Within these asset classes the Fund utilises a range of specialist investment managers. These are listed in the table below.

New Zealand equities	Harbour Asset Management Limited OnePath (NZ) Limited Direct Capital IV GP Limited (NZ private equity)
International equities	Altrinsic Global Advisers, LLC Arrowstreet Capital Limited Partnership Genesis Emerging Markets Investment Company Marathon Asset Management LLP PanAgora Asset Management, Inc Pzena Investment Management LLC T. Rowe Price Global Investment Services Limited
Property	AMP Capital Investors New Zealand Limited Willis Bond and Company Management Limited
Fixed interest	Ashmore Management Company Limited Pacific Investment Management Company LLC Wellington Management Company LLP
Commodities	Gresham Investment Management LLC
Global tactical asset allocation	AQR Capital Management, LLC
Insurance Linked Assets	Credit Suisse Securities (Europe) Nephila, LLC
Multi assets	Makena Capital Management (Cayman), LLC
Currency management	ANZ National Bank Limited Limited State Street Global Advisors, Australia, Limited

In our opinion, given the circumstances of the Fund, in particular the long term nature of the benefits and the partially funded status, the assets and the investment strategy are within the range of what is suitable for the purposes of the Fund.

INVESTMENT RETURN

The long term after tax investment return was assumed to be 6.25% p.a. for the purposes of the 30 June 2011 statutory valuation. The estimated return for the 2011/12 year was -0.5%. This has been estimated using the formula $2I/(A + B - I)$, where I is investment income less tax provisions, A is the opening balance and B is the closing balance.

Returns for prior years, as reported in the Fund's annual reports were:

- Year ended 30 June 2011 11.6%
- Year ended 30 June 2010 10.4%

5. FUND EXPERIENCE

SALARY INCREASES

The average salary increases for the year for contributors at 30 June 2012 are shown in the table below, segregated by scheme. The expected increase, based on last year's actuarial assumptions, was 3% plus an assumed promotional salary increase based on a member's scheme and age. Therefore the majority of members had salary increases which were lower than expected, and this has the effect of reducing the value of the liabilities slightly.

Scheme	Actual average salary increase
Armed Forces	2.5%
General (excluding Islands)	2.5%
Islands	4.2%
Police	2.5%
Prisons Service	1.6%
Judges and Solicitor-General	1.0%
Parliamentary	3.9%

PENSION INCREASES

Pensions were adjusted to reflect an increase in the Consumer Price Index of 1.85% over the year. This was lower than the assumed rate of 3% and has resulted in a reduction in the value of the liabilities.

DEMOGRAPHIC

The demographic experience of the Fund over the three year period to 30 June 2012 has been reviewed as part of this valuation. The results of the review are set out in a separate report.

It is noted that due to the reducing number of contributors only the General Scheme is large enough to provide meaningful results from an experience analysis.

The conclusions from the review are that the current demographic assumptions are appropriate and should be retained in almost all cases. The only changes recommended were:

- The retirement decrements for the General Scheme are altered at ages 50 to 56 as follows.

Age	Current decrement	New decrement
50	.02	.03
51	.02	.03
52	.02	.03
53	.02	.04
54	.02	.04
55	.03	.05
56	.03	.05

- The assumed proportion of eligible resigning General Scheme members who elect to take a deferred pension is increased from 20% to 60%.

PENSIONER MORTALITY

Earlier this year we carried out a review of the pensioner mortality over the five year period to 30 June 2011. Results were set out in our report dated 2 May 2012. The main conclusions of the review were that:

- The current mortality rates (from the 2005 investigation) should be retained as base rates.
- An allowance for mortality improvement of 1.5% p.a. be made, effective from 1 September 2003, being the mid-point of the data analysed for the 2005 mortality investigation.
- The assumptions be reviewed again in three years' time.

These recommendations have been incorporated into the calculations carried out for this report.

6. VALUATION METHODOLOGY

All members have been valued individually using Russell's proprietary software. Each member's age, gender, category of membership, salary, service, deferred pension, current pension and/or contributions have been taken into consideration.

Valuing the Fund's liabilities involves projecting the benefits payable in future to members and their dependants. Benefits are payable on retirement, death, leaving service, ill health or on withdrawal from the Fund and are calculated using membership at the valuation date. The amount of the entitlement typically depends on the length of membership, the level of salary in the years leading up to the event and the pension increases subsequently given (in the case of the pension entitlements).

A summary of the main entitlements for each scheme is provided in Appendix C. This summary has been reviewed and agreed by the Authority.

PAST SERVICE LIABILITIES

The Past Service Liabilities for the Fund are calculated by projecting these payments, using assumptions about the likelihood of an entitlement becoming payable at any future date (the demographic assumptions) and about members' future salary growth and pension increases (the financial assumptions). The projected payments are discounted back to the valuation date using the assumed expected discount rate.

UNFUNDED LIABILITIES

The Unfunded Liabilities are then calculated as the difference between the Past Service Liabilities and the Fund assets.

CROWN SUBSIDY

The Crown makes contributions (known as the Crown subsidy) to the Fund which are equal to:

- the benefit payments arising from members of the Judges and Solicitor-General Scheme and the Parliamentary Scheme, which are both funded on a pay-as-you-go basis;
- a proportion of the benefit payments arising from other members, with the amount determined by deducting from the total benefit payments in respect of the relevant members the amount received from funding employers and the Fund Share of Benefits; and
- a proportion of the Fund's expenses with the balance met by the funding employers.

FUND SHARE OF BENEFITS

The Fund Share of Benefits is the proportion of benefits arising, excluding benefit payments from the Judges and Solicitor-General Scheme and the Parliamentary Scheme, which are paid from the Fund.

This proportion is calculated as the ratio of the Fund assets plus expected future member contributions to the total Fund liabilities in respect of past and expected future service. It is calculated using the NZ IAS19 accounting basis, i.e. using the net of tax risk-free discount rates determined by Treasury.

EMPLOYER CONTRIBUTION RATES

Funding employers (employers whose employees are paid from money which is not public money) make employer contributions to the Fund. Non-funding employers do not make employer contributions to the Fund, but the Government requires employer contributions to be made to the Crown.

The method used for determining the employer contribution rates is to use the Standard Contribution Rates calculated using the Attained Age Method. This method calculates the employer contributions required to fund benefits accruing over potential future service by:

- calculating the amount of all benefits expected to be paid in the future in respect of the current Fund members, based on potential future service, and allowing for all the contingencies under which benefits can be paid (retirement, death, ill health or resignation), the probabilities of these contingencies arising and for future salary increases;
- projecting future pension benefits allowing for increases arising from cost of living adjustments and for probabilities of survival;
- discounting the stream of expected future benefit and pension payments to determine the present value of future liabilities;
- similarly, discounting the projected stream of expected future member contributions to determine the present value of these contributions and then offsetting this amount from the present value of future liabilities above;
- dividing this net future liability by the present value of 1% of future members' salaries to derive the Standard Contribution Rate; and
- grossing up the calculated rate to allow for Employer Superannuation Contribution Tax for the schemes where the tax applies.

In fully funded superannuation schemes where this method is used, the Standard Contribution Rate is usually adjusted to allow for any difference between the scheme assets and past service liabilities. However, due to the substantially unfunded nature of the Fund, this is not a practical approach and since 1 July 2010 (as applied by the statutory actuarial valuation report as at 30 June 2009) employer contributions have been calculated using the Standard Contribution Rates without adjustment. This means that the Standard Contribution Rates are only adjusted for emerging experience to the extent future assumptions are updated.

Up until 30 June 2010, the Standard Contribution Rates were adjusted with reference to the surplus or deficit of the notional fund for each scheme, calculated commencing 1 July 1992, when the Fund was largely closed to new entrants. The significant reduction in the value of assets as a result of the global financial crisis, combined with the reduced number of contributors made it difficult for stable contribution rates to be maintained under this approach.

The exception to this is the Prisons Service Scheme, which continues to have a high surplus and for which no further contributions are currently necessary.

7. ASSUMPTIONS

FINANCIAL ASSUMPTIONS

The key financial assumptions are the discount rate, and the rates of salary growth and pension increases.

DISCOUNT RATE – STATUTORY BASIS

The valuation of the Fund on the statutory basis provides a picture of the financial condition of the Fund and a determination of the employer contribution rates on an on-going basis. Therefore a discount rate based on a realistic best estimate assumption of the expected return on assets is required.

We have derived a discount rate from the expected return on assets based on modelling carried out by Russell Investments' in-house capital markets team. The modelling derives a set of expected real returns for each of the major asset classes in which the Fund invests and is combined with the price inflation assumption to develop nominal returns. The discount rate has allowed for the effects of taxation and is expressed net of New Zealand tax. No adjustments for investment expenses were made as they are met by the Crown and the funding employers. The discount rate is calculated based on the long term strategic asset allocations and long term expectations of investment returns net of taxation at the valuation date. The long term strategic asset allocation for the Fund is set out in Section 4 (page 6) of this report.

Based on this methodology the discount rate assumption for the Fund as at 30 June 2012 is 5.5% p.a., net of tax. The discount rate assumption for the last statutory valuation as at 30 June 2011 was 6.25% p.a. The reduction in this assumption has been driven by changes in market conditions and the related falls in interest rates across the yield curve over the last year. The falls in interest rates have reduced the prospective returns on fixed interest and cash investments. Our return assumptions for equities and other risk assets are based on an approximation of "risk free" interest rates plus an equity risk premium. As our estimate of the risk free interest rates has fallen, this has resulted in a reduction in prospective returns for all asset classes.

For the purpose of recommending the employer contribution rates to apply from 1 July 2013 we have used a discount rate of 5.75% p.a. which is based on the expected return on assets for the Fund over the expected term of the liabilities in respect of contributors. The average term of the liabilities for contributors is significantly longer than that for the whole Fund membership and the resulting higher discount rate reflects that the Russell Investments modelling predicts slightly higher returns over the longer term.

DISCOUNT RATE – FUND SHARE BASIS

For consistency with the valuation of actuarial liabilities reported in Crown Accounts, the discount rates for the Fund Share basis are calculated by reference to market prices for Government stock as at the valuation date. The after tax discount rates for this valuation and the last statutory valuation are set out in Appendix B.

PENSION INCREASES

The pension increase assumption is linked to expected increases in the Consumer Price Index (CPI). For the purposes of certain accounting valuations Treasury publishes assumptions relating to CPI increases. In our opinion it is reasonable to also use these assumptions for this valuation. As at 30 June 2012 the assumed CPI increases, as published by Treasury, are 2.1% for the year to 30 June 2013, 2.4% for the year to 30 June 2014 and 2.5% p.a. for all years thereafter. For the last statutory valuation the CPI was assumed to be 3.0% p.a. for the first year and 2.5% p.a. thereafter.

The assumption of major significance in the valuation of the Fund's liabilities is the long term difference (or 'gap') between the assumed discount rate and the assumed rate of future pension increases. These two assumptions offset each other in their financial effect, hence the difference between the rates is important rather than the absolute values ascribed to them. The greater the assumed gap, the lower the value placed on the liabilities.

The assumed gap for this valuation is 3.0% p.a., from 1 July 2014 onwards. The gap for the last statutory valuation was 3.75% p.a., from 1 July 2012 onwards. In isolation, this means that overall the value of liabilities will be higher than the liability disclosed as at 30 June 2011.

SALARY GROWTH

The salary inflation assumption is based on market expectations of price inflation and on consideration of Treasury's expected range for inflation, together with an allowance for the margin of salary inflation over price inflation. The salary assumption adopted is a flat salary increase of 3.0% p.a., which is the same as that used for the statutory valuation as at 30 June 2011. In addition, an age-based scale of promotional salary increases has been used, as set out in Appendix B, which is also the same as adopted for the 30 June 2011 statutory valuation.

DEMOGRAPHIC ASSUMPTIONS

The demographic assumptions used are the same as used in the most recent statutory valuation as at 30 June 2011 with the exception of:

- the allowance for mortality improvements;
- the adjustment to the early retirement decrements for General Scheme members; and
- the increase in the proportion of eligible resigning General Scheme members assumed to elect a deferred pension.

The details of these adjusted assumptions are provided in Section 5 above.

MORTALITY IMPROVEMENT ALLOWANCE

The 30 June 2011 statutory valuation included an allowance for mortality improvements as a reduction of 0.25% p.a. to the discount rate.

Earlier this year we carried out a review of the pensioner mortality over the five year period to 30 June 2011. Results were set out in our report dated 2 May 2012. The main conclusions of the review were that:

- the current mortality rates (from the 2005 investigation) should be retained as base rates;
- an allowance for mortality improvement of 1.5% p.a. be made, effective from 1 September 2003, being the mid-point of the data analysed for the 2005 mortality investigation; and
- the assumptions be reviewed again in three years' time.

These recommendations have been incorporated into the calculations carried out for this report.

EXPENSES

The expenses of the management of the Fund are currently met in part by the funding employers, with the balance paid by the Crown as provided by Section 15E of the Act. An allowance for future expenses has been made in the calculations of the contribution rates for funding employers.

Recommendations on the apportionment of expenses between Crown and funding employers for the year ending 30 June 2013 were made by the previous actuary in his report dated 26 September 2011. It was recommended that the Crown should meet 79% of the expenses of the Authority relating to management and administration, with the balance to be met by funding employers.

We have provided advice to the Authority on the apportionment of expenses for the year to 30 June 2014. Full details of our calculations and recommendations are set out in a separate report. In summary, we took a different approach in our interpretation of Section 15E from the previous actuary which resulted in a recommendation that the share of expenses to be met by the Crown and by funding employers are 86% and 14% respectively.

Appendix B sets out a summary of the key financial and demographic assumptions adopted.

8. RESULTS

TOTAL LIABILITIES

The valuation balance sheet under each basis is set out below.

	Statutory valuation $million	Fund Share valuation $million
Total Service Liabilities		
Armed Forces	10	15
General (excluding Islands)	3,556	5,298
Islands	76	118
Police	277	412
Prisons Service	26	36
Judges and Solicitor-General	28	37
Parliamentary	11	15
Current pensioners	9,872	12,844
Deferred pensioners	752	1,231
Total Liabilities	**14,609**	**20,007**
Assets		
Value of Fund Assets	3,017	3,017
Present value of member contributions		
Armed Forces	0	0
General (excluding Islands)	224	259
Islands	5	5
Police	7	8
Prisons Service	0	0
Judges and Solicitor-General	0	0
Parliamentary	0	0
Total Assets	**3,253**	**3,289**
Present value of amounts to be funded by Government subsidies and funding employer contributions	**11,356**	**16,718**
Fund Share of Benefits		**16.7%**

The Fund Share of Benefits is calculated as the ratio of the value of assets plus the value of member contributions to the value of total liabilities. For this calculation, the liabilities and contributions in respect of the Judges and Solicitor-General Scheme and the Parliamentary Scheme are excluded. The liabilities for these two schemes are $346 million and the value of contributions is nil (when rounded to the nearest million).

The Fund Share of Benefits calculated at the 2011 valuation was 21.1%. The calculation above shows that the Fund Share of Benefits at 30 June 2012 has decreased to 16.7%. This is primarily due to the reduction in the discount rates used to value the liabilities, which reflects the reduction in bond yields over the year and results in a higher value being placed on the Fund's liabilities. In addition, the allowance for mortality improvement and lower than expected investment returns have also contributed to the decrease in the Fund Share of Benefits.

PAST SERVICE LIABILITIES

The past service liabilities at 30 June 2012 are:

	Statutory valuation $million	Fund Share valuation $million
Past Service Liabilities		
Armed Forces	10	14
General (excluding Islands)	3,041	4,482
Islands	62	95
Police	259	383
Prisons Service	26	35
Judges and Solicitor-General	28	37
Parliamentary	11	15
Total Contributors	**3,437**	**5,061**
Current pensioners	9,872	12,844
Deferred pensioners	752	1,231
Total Pensioners	**10,624**	**14,076**
All Past Service Liabilities	**14,061**	**19,137**
Assets	**3,017**	**3,017**
Unfunded Past Service Liabilities	**11,044**	**16,120**

The relationship between the past service liabilities and the assets is unlikely to change materially by the date of the next investigation, if the actuarial assumptions are borne out in practice.

FINANCIAL RECONCILIATION

The change in the Past Service Liabilities (PSL) over the 2011/12 year is detailed below.

PSL at 30 June 2011		**12,255**
Expected change		
Service cost	90	
Interest cost	715	
Benefit payments	(873)	(68)
Experience (gains)/losses		30
Assumption changes		
Financial	1,060	
Demographic	784	1,844
PSL at 30 June 2012		**14,061**

The demographic assumption change is predominantly the result of the change in the assumption for mortality improvement.

The corresponding movement in the assets over the year was:

Assets at 30 June 2011		**3,159**
Expected change		
Return on assets	185	
Contributions	748	
Benefit payments	(873)	60
Experience gains/(losses)		
Investment	(202)	
Other	-	(202)
Assets at 30 June 2012		**3,017**

The movement of the unfunded past service liability (actuarial deficit) over the year is, therefore:

Unfunded PSL at 30 June 2011		**9,096**
Expected change		
Service cost	90	
Interest cost	715	
Return on assets	(185)	
Contributions	(748)	(128)
Experience (gains)/losses		
Assets	202	
Liabilities	30	232
Change in basis		
Financial	1,060	
Demographic	784	1,844
Actual Unfunded PSL at 30 June 2012		**11,044**

VESTED BENEFITS

Vested benefits are calculated as the amount payable in the event that all contributors ceased membership as at the valuation date. For this purpose, I have assumed that:

- for all schemes other than Armed Forces (AF), contributors with at least 10 years contributory service will receive a deferred pension commencing at age 50 if they are currently under age 50, otherwise an immediate pension,
- for all schemes other than AF, contributors with less than 10 years contributory service will receive an immediate withdrawal benefit (there are very few members in this situation),
- all contributors in the AF Scheme receive an immediate retirement pension, and
- the pension benefits have been valued using the same assumptions about commutation as were used to value the past service liabilities, as set out in Appendix B.

The vested benefit values are shown in the following table. The ratio of vested benefits to past service liabilities is also shown.

Group	Vested Benefits $million	As a percentage of past service liability
Contributors and Inactives:		
Armed Forces	10	96%
General (excluding Islands)	3,431	113%
Islands	69	110%
Police	199	77%
Prisons Service	26	102%
Judges and Solicitor-General	32	115%
Parliamentary	9	84%
Total Contributors and Inactives	**3,776**	**110%**
Pensioners:		
Current Pensioners	9,872	100%
Deferred Pensioners	752	100%
Total Pensioners	**10,624**	**100%**
Grand total	14,399	
Less Assets	3,017	
Shortfall	**11,382**	

The relationship between the vested benefits and the assets is unlikely to change materially by the date of the next investigation.

The implications of the Fund winding up have not been considered in this report due to the nature of the Fund.

PROJECTED SUBSIDY

A projection of the amount of Government subsidy under the Fund Share basis, before any offset for contributions by funding employers, has been made for the next five years assuming that experience will match the valuation assumptions. The results of the projection are shown below.

Year ending 30 June	Projected subsidy $million
2013	722
2014	756
2015	767
2016	780
2017	792

EMPLOYER CONTRIBUTIONS – FUNDING EMPLOYERS

The recommended contribution rates from 1 July 2013 for funding employers are 12.1% (exclusive of Employer Superannuation Contribution Tax (ESCT)) for the Islands group of members and for other members the rates in the following table as per age nearest at 30 June 2013 and gender. The rates in the table are inclusive of ESCT at 33%. Overall, the rates have increased compared to the rates recommended in last year's report due mainly to the allowance for mortality improvement and a lower expected return on assets. The comparative contribution rates between the age groups have changed due to changes in the assumptions for the rates of early retirement.

Contribution group	Males	Females
Up to age 54	13.6%	14.4%
From age 55 to 59	13.8%	14.7%
From age 60 to 64	13.1%	14.0%
From age 65 to 69	11.5%	12.4%
Age 70 and over	nil	nil

The previous recommended contribution rates, inclusive of ESCT, which apply over the year to 30 June 2013 were as follows:

Contribution group	Males	Females
Up to age 53	10.9%	11.3%
From age 54 to 58	12.9%	13.6%
From age 59 to 63	14.2%	15.0%
From age 64 to 69	15.3%	16.1%
Age 69 and over	nil	nil

EMPLOYER CONTRIBUTIONS – NON-FUNDING EMPLOYERS

Non-funding employer contribution rates, inclusive of ESCT, for the different schemes are:

Scheme	Non-funding employer contribution rates
Armed Forces	25.1%
General	11.8%
Police	15.6%
Prisons Service	0%

The previous recommended contribution rates, inclusive of ESCT, which apply over the year to 30 June 2013 were as follows:

Scheme	Non-funding employer contribution rates
Armed Forces	25.1%
General	10.7%
Police	19.1%
Prisons Service	0%

The General Scheme rate has increased compared to the 2012/13 rate due mainly to the allowance for mortality improvement and a lower expected return on assets.

It is recommended that the Armed Forces rate remains unchanged given the very small number of contributors remaining as at 30 June 2012.

The contribution rate for the Police Scheme has decreased compared to the 2012/13 due to an adjustment in the way the contribution rates are calculated for this scheme.

The Judges and Solicitor-General Scheme and the Parliamentary Scheme are both funded on a pay-as-you-go basis and therefore there are no recommended contribution rates for these schemes.

The notional fund in respect of the Prisons Service Scheme continues to have a high surplus and no further contributions are currently necessary. The notional fund position for the Prisons Service Scheme at 30 June 2012 is as follows.

- Notional fund: $70 million
- Past service liability: $26 million

SENSITIVITY OF RESULTS

As explained earlier in the report, the value of the liabilities is highly influenced by the size of the gap between the discount rate and the assumed rate of future inflation, whether salary inflation or price inflation. To illustrate the impact of a change in the gap we have revalued the past service liabilities using discount rates of 6.5% and 4.5%, whilst keeping all other assumptions unchanged.

The results are shown in the following table.

	Statutory basis $million	6.5% discount rate $million	4.5% discount rate $million
Contributors and Inactives	3,437	2,965	4,031
Current pensioners	9,872	9,040	10,850
Deferred pensioners	752	609	941
Total past service liabilities	14,061	12,613	15,823
Assets	3,017	3,017	3,017
Unfunded liability	11,044	9,596	12,806

This sensitivity analysis is not intended to show the full range of possible outcomes, but is intended to demonstrate that outcomes are highly dependent on future experience.

9. MATERIAL RISKS

The purpose of this section of this report is to identify the material risks for the Fund which are associated with the actuarial assumptions or actuarial management of the Fund, of which we are aware as Actuary. We also comment on the way in which the identified financial risks are being managed by the Authority.

The material risks are:

INCREASING LIFE EXPECTANCY

The Fund's liabilities relate almost wholly to current or future pensioners. The assumptions regarding pensioner mortality that were used for this valuation allow for future improvements in mortality. However, a future breakthrough in medical diagnosis or treatment which leads to a significant increase in life expectancy could increase the Fund's liabilities and require increased employer and Crown contributions.

Mortality experience should continue to be monitored at least every three years, in conjunction with relevant population data, to assess whether the current assumptions remain valid.

INVESTMENT RISK

The risk faced by the Fund is that the investment returns earned on the assets will not be as high as expected over the long term. This means that the Crown's share of benefit payments might need to increase.

The Authority's policy is for the Fund assets to be invested about 60% in equities, 20% in fixed interest and 20% in alternative strategies. The risk parameter associated with the Fund's investment objective is to have no more than a one in ten chance in any one year of a loss after tax greater than 9% of the total Fund.

The Fund has a strategy of using diversified investment vehicles, and requires investment managers to themselves invest in a range of underlying securities. Given the level of diversification in the underlying investments, the Fund is unlikely to suffer any significant loss from underperformance by the failure of an individual underlying security.

The Authority has a comprehensive Statement of Investment Policies Standards and Procedures in place for the governance and management of the assets held by the Fund.

INFLATION

The Fund's liabilities for active members are linked to salary and therefore a higher than expected rate of inflation could have a negative impact on the required contribution amounts. Salary increases should continue to be monitored at each valuation.

Similarly, pension liabilities are linked to the Consumer Price Index and increases above those assumed could lead to an increase in Crown contributions.

LIQUIDITY RISK

The majority of the Fund's liabilities relate to current and future pensions which we expect to be paid out over a very long time frame. As the benefit payments are largely covered by Crown and employer contributions the amount of assets required to be redeemed to meet benefits is relatively small and is quite stable over time. Therefore the Fund is unlikely to be faced with a need to redeem an unexpectedly large amount.

Furthermore, the Authority's Statement of Investment Policies Standards and Procedures includes a number of policies addressing liquidity risk.

In future, as the Fund begins to decline in size, we would expect the assets to move gradually to a predominantly liquid position.

SELF INSURANCE

By self insuring the death and ill health benefits, the Fund runs the risk of higher than expected claims occurring. However, given the high average age of current active members, the value of death or ill health benefits are not materially different from the value of retirement benefits.

Furthermore, in the event of a pandemic affecting the general population, the effect of an increase in deaths amongst active members could be offset to some extent by deaths among the current pensioners.

OTHER

The Fund faces a variety of operational and other risks which may in some circumstances lead to cost increases. We understand that the Authority monitors and takes action on such risks as part of the risk management framework.

10. STATEMENTS AND CERTIFICATION

FUND SHARE OF BENEFITS

The results in Section 8, carried out using valuation discount rates consistent with the approach taken to valuations for Crown Account purposes, shows a Fund Share proportion of 16.7%. The 2011 valuation resulted in a proportion of 21%. As the valuation result is sensitive to the level of actual investment returns received and the assumed discount rates used, I consider the Fund Share of benefits proportion should be decreased to 16.7%.

In terms of Section 95(1) of the Act I certify the proportion of benefits calculated as being provided by member contributions into the Fund is 16.7%.

FUNDING EMPLOYER CONTRIBUTION RATES

The then Government Actuary cited legal advice in respect of Section 95(2) of the Act that led to rates being specified by age and gender in order that specific membership characteristics of funding employers be recognised. I have continued with the previous practice of providing rates split out by gender each into five age groups.

In terms of Section 95(2) of the Act, I certify that the rate of contributions, as from 1 July 2013, required from those employers of contributors whose salaries are payable out of money that is not public money is:

- for contributors who are members under Part 2 or Part 2A of the Act and employed by the Public Services of the Cook Islands, Niue or Tokelau: 12.1% of contributor salaries, exclusive of Employer Superannuation Contribution Tax (ESCT); and
- for contributors who are members under Part 2 or Part 2A of the Act, excluding those employed by the Public Services of the Cook Islands, Niue or Tokelau, the average rate, inclusive of ESCT, obtained by applying the rates set out in the table below to contributor salaries according to age and gender, provided that if the change on the average rate presently applicable is 0.3% or less, then no change will be required to be made.

Contribution group	Males	Females
1. Up to age 54	13.6%	14.4%
2. From age 55 to 59	13.8%	14.7%
3. From age 60 to 64	13.1%	14.0%
4. From age 65 to 69	11.5%	12.4%
5. Age 70 and over	nil	nil

NON-FUNDING EMPLOYER CONTRIBUTION RATES

The non-funding employers are required to budget for the superannuation contributions as if such contributions were payable to the Fund. These employer contribution rates do not include an allowance for a share of expenses as this is paid directly.

I recommend that contributions for non-funding employers are based on the following employer contribution rates, inclusive of ESCT, from 1 July 2013.

Scheme	Non-funding employer contribution rates
Armed Forces	25.1%
General	11.8%
Police	15.6%
Prisons Service	0.0%

STATEMENTS

In accordance with my professional obligations as a Fellow of the New Zealand Society of Actuaries, I make the following statements:

- In carrying out this valuation as required by the Government Superannuation Act 1956 in my view I have no conflict with any other of my professional activities.
- I am not aware of any material developments to the Fund or any external events that have had a material effect on the results of the investigation.
- I am not aware of any material events subsequent to the date of the current investigation other than the continuing volatility of financial markets.
- The Fund has no arrangements for external insurance of the benefits payable on death or disability. Having regard to the size of the Fund and the nature of the benefits payable on death or disability, it is my view that there is no need for the Fund to hold such insurance.
- In completing this report I have had regard to Professional Standard No. 2 - Actuarial Reporting for Superannuation Schemes - issued by the New Zealand Society of Actuaries. The valuation method and the financial, economic and demographic assumptions have been determined in accordance with the professional judgement of the actuary preparing the report.
- I am not aware of any discrepancy between the Act and subsequent Amendments and the practice of the GSF Authority which would have a material bearing on the results of this investigation.
- The next valuation will be carried out as at 30 June 2013.

RELIANCES AND LIMITATIONS

In preparing this report we have relied on information supplied by the Fund Administrator and the Authority. In particular we have relied on the accuracy of the net asset value for the year to 30 June 2012 and on membership data as at 30 June 2012.

The content and accuracy of this report are dependent on the completeness and accuracy of the information provided to us. Although independent verification of this information was not undertaken, we have reviewed the information for reasonableness and consistency with our knowledge of the Fund.

This report has been prepared for the purposes of determining the unfunded liabilities of the Fund and the Crown's and Employers' contribution requirements. The results may not be appropriate for other purposes.

Emma Brodie FNZSA, FIAA
Actuary to the Fund
Senior Consultant, Russell Actuarial

Level 29
135 King Street
Sydney NSW 2000
Australia

This report has been peer reviewed in accordance with Russell Actuarial quality procedures.

Matthew Burgess FNZSA, FIAA
Director, Russell Actuarial

APPENDIX A. MEMBERSHIP DATA

The following tables summarise the membership data as at 30 June 2012 received from the Fund Administrator.

CONTRIBUTORS

A summary of the membership data in respect of contributors split by scheme is as follows:

Scheme	Sex	Age Group	Number of Members	Average Age	Average Membership	Average FTE[1] Salary ($)
Armed Forces			**25**	**46.0**	**24.8**	**55,449**
	F		**7**	**43.0**	**22.2**	**56,870**
		35 to 44	4	40.3	20.4	58,981
		45 to 54	3	46.5	24.5	54,056
	M		**18**	**47.1**	**25.9**	**54,896**
		35 to 44	10	41.3	22.7	53,264
		45 to 54	5	49.5	29.4	82,048
		55 to 64	2	61.1	21.4	22,619
		65 and over	1	*	*	*
General (excluding Islands)			**6,855**	**57.9**	**28.0**	**95,230**
	F		**2,538**	**57.8**	**24.7**	**83,787**
		35 to 44	75	42.7	18.4	67,297
		45 to 54	734	51.2	23.6	83,069
		55 to 64	1,426	60.1	25.4	85,771
		65 and over	303	67.2	25.4	80,271
	M		**4,317**	**57.9**	**30.0**	**101,958**
		35 to 44	69	43.3	21.3	84,665
		45 to 54	1,242	51.5	27.3	94,435
		55 to 64	2,583	59.8	31.0	104,821
		65 and over	423	67.3	33.3	109,382
Islands			**444**	**48.4**	**25.4**	**26,409**
	F		**211**	**47.8**	**25.2**	**25,179**
		25 to 34	1	*	*	*
		35 to 44	84	41.4	21.4	25,072
		45 to 54	92	49.6	26.4	25,471
		55 to 64	34	58.9	31.7	24,771
	M		**233**	**49.0**	**25.4**	**27,524**
		25 to 34	1	*	*	*
		35 to 44	65	41.6	20.5	26,358
		45 to 54	127	49.6	26.4	28,593
		55 to 64	40	59.2	30.7	25,814

Scheme	Sex	Age Group	Number of Members	Average Age	Average Membership	Average FTE[1] Salary ($)
Police			**227**	**49.4**	**26.1**	**102,343**
	F		**31**	**47.8**	**24.3**	**92,174**
		35 to 44	9	43.0	20.8	88,508
		45 to 54	20	49.2	25.1	97,129
		55 to 64	2	56.5	31.8	59,126
	M		**196**	**49.6**	**26.4**	**103,952**
		35 to 44	31	43.4	21.8	94,342
		45 to 54	143	49.8	26.6	103,560
		55 to 64	22	57.5	31.8	120,039
Prisons Service			**63**	**59.7**	**28.0**	**64,104**
	F		**7**	**56.5**	**24.8**	**70,492**
		45 to 54	3	51.9	23.3	73,572
		55 to 64	4	59.9	25.9	68,182
	M		**56**	**60.1**	**28.4**	**63,305**
		45 to 54	8	51.6	24.8	69,429
		55 to 64	39	60.1	28.2	63,374
		65 and over	9	67.4	32.7	57,566
Judges and Solicitor-General			**13**	**64.7**	**23.0**	**339,962**
	M		**13**	**64.7**	**23.0**	**339,962**
		55 to 64	6	61.8	22.1	327,083
		65 and over	7	67.2	23.8	351,000
Parliamentary			**9**	**55.9**	**24.1**	**141,800**
	F		**1**	*	*	*
		45 to 54	1	*	*	*
	M		**8**	**56.4**	**24.4**	**141,800**
		45 to 54	3	48.5	21.7	141,800
		55 to 64	5	61.1	26.1	141,800
All Schemes			**7,636**	**57.1**	**27.8**	**91,542**

[1] Full-Time Equivalent

Note: In the table above, * signifies that where there was only one member in the age band, the statistics are not shown for privacy reasons.

INACTIVES

Inactives are members who have ceased contributing to the Fund, but have not yet received an entitlement, and for whom insufficient data is available. These members are split into three groups according to the data available to calculate entitlements:

- Inactives(1A) are members with less than 10 years membership, or with a salary of nil or $1.
- Inactives(1B) are members with at least 10 years membership and a salary.
- Inactives(2) are members for whom neither salary nor contribution information was available in order to estimate entitlements.

A summary of the Inactives(1) membership data as at 30 June 2012 is as follows:

Inactives(1A) (Withdrawal Benefit)	Number of Members	Average Age	Average Membership	Average Withdrawal Benefit ($)
Armed Forces	20	53.1	1.7	1,100
General (ex Islands)	954	54.2	4.0	8,725
Islands	132	45.7	2.6	1,012
Police	6	58.3	3.6	18,282
Prisons Service	6	56.1	3.5	19,443
Grand Total	**1,118**	**53.2**	**3.8**	**7,787**

Inactives(1B) (Deferred Pension)	Number of Members	Average Age	Average Membership	Average Deferred Pension ($pa)
Armed Forces	2	41.0	19.2	20,421
General (ex Islands)	717	55.1	19.0	13,279
Islands	21	48.2	15.5	3,732
Police	146	56.8	30.3	28,856
Prisons Service	5	63.2	32.0	18,035
Grand Total	**891**	**55.2**	**20.9**	**15,649**

In addition, there were 2,808 Inactives(2) members as at 30 June 2012. A summary of the pensioner membership data as at 30 June 2012 is as follows:

	Deferred pensions			Retirement pensions		
	Number	Average Age	Average Pension ($pa)	Number	Average Age	Average Pension ($pa)
Females	**413**	**47.7**	**9,954**	**6,358**	**72.1**	**15,184**
Under age 25						
Age 25 to 49	277	44.5	10,456	10	47.1	3,953
Age 50 to 59	136	54.2	8,930	515	56.4	14,035
Age 60 to 69				2,440	65.7	15,497
Age 70 to 79				1,994	74.3	15,300
Age 80 and over				1,399	86.1	14,974
Males	**5,264**	**50.8**	**9,503**	**26,608**	**73.2**	**21,983**
Under age 25						
Age 25 to 49	2,163	44.9	10,780	28	45.3	4,079
Age 50 to 59	3,101	54.9	8,613	1,231	56.7	19,265
Age 60 to 69				9,220	65.5	22,093
Age 70 to 79				9,690	74.5	22,261
Age 80 and over				6,439	85.4	22,003
Grand Total	**5,677**	**50.6**	**9,536**	**32,966**	**73.0**	**20,671**

Spousal and dependant pensions

	Number	Average Age	Average Pension ($pa)
Females	**13,111**	**78.7**	**9,642**
Under age 25	52	15.1	3,066
Age 25 to 49	57	45.2	4,819
Age 50 to 59	439	56.6	7,869
Age 60 to 69	1,910	65.7	8,609
Age 70 to 79	4,039	75.3	9,621
Age 80 and over	6,614	86.9	10,164
Males	**561**	**72.7**	**9,081**
Under age 25	43	14.7	3,107
Age 25 to 49	13	40.7	3,084
Age 50 to 59	27	56.6	4,880
Age 60 to 69	68	65.6	5,710
Age 70 to 79	140	75.3	7,999
Age 80 and over	270	85.6	12,151
Grand Total	**13,672**	**78.5**	**9,619**

APPENDIX B. ACTUARIAL ASSUMPTIONS

FINANCIAL ASSUMPTIONS

The financial assumptions which we have adopted are shown below:

DISCOUNT RATES

Year ended 30 June	Discount rate pa Fund Share 2012	Discount rate pa Fund Share 2011
2013	1.75%	2.74%
2014	1.78%	3.35%
2015	1.99%	3.80%
2016	2.34%	4.11%
2017	2.64%	4.32%
2018	2.83%	4.45%
2019	2.93%	4.49%
2020	3.00%	4.49%
2021	3.06%	4.49%
2022	3.09%	4.49%
2023	3.11%	4.49%
2024	3.19%	4.47%
2025	3.30%	4.44%
2026	3.41%	4.40%
2027	3.51%	4.37%
2028	3.62%	4.33%
2029	3.73%	4.32%
2030	3.84%	4.32%
2031	3.95%	4.32%
2032	4.05%	4.32%
2033	4.16%	4.32%
2034	4.27%	4.32%
2035 and later	4.32%	4.32%

- Discount Rate (Statutory) 5.5%
- Discount Rate (contribution rates) 5.75% p.a.
- CPI: 2.1% for 2012/13, 2.4% for 2013/14, 2.5% p.a. thereafter
- Salary increases: 3.0% p.a.

DEMOGRAPHIC ASSUMPTIONS

PROMOTIONAL SALARY INCREASES

In addition to salary increases from general salary inflation, age related promotional increases have been assumed. Specimen rates are as follows:

Salary increases at each age

Age	General Schemes	Islands	Armed Forces	Judges	Parliamentary	Police	Prisons Service
30	1.50%	1.00%	1.500%	2.00%	2.00%	2.250%	3.50%
35	1.25%	1.00%	1.125%	1.40%	1.40%	2.188%	2.60%
40	1.00%	1.00%	0.750%	0.95%	0.95%	2.125%	2.00%
45	0.75%	1.00%	0.375%	0.70%	0.70%	2.063%	0.50%
50	0.50%	-	-	0.25%	0.25%	2.000%	-
55	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-

IN-SERVICE DECREMENTS

Specimen rates for the General Schemes are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit

Age	Male Death	Female Death	Resignation	Age Retirement	Ill-health Retirement
35	5	3	700	-	5
40	6	4	400	-	5
45	9	6	300	-	30
50	14	10	200	300	55
55	22	16	-	500	80
60	38	26	-	1,000	-

Specimen rates for the Islands are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit

Age	Male Death	Female Death	Resignation	Age Retirement	Ill-health Retirement
35	13	7	400	-	5
40	16	9	430	-	10
45	22	16	280	-	20
50	34	25	100	1,000	45
55	56	40	-	1,600	85
60	-	-	-	10,000	-

Specimen rates (which include age and membership based rates) for the Armed Forces Scheme are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit			
Age	**Male Death**	**Female Death**	**Ill-health Retirement**
35	5	3	5
40	6	4	0
45	9	6	0
50	14	10	0
55	22	16	0
60	38	26	0

Number out of 10,000 members with membership X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit		
Membership	**Resignation**	**Age Retirement**
15	100	-
20	-	6,000
25	-	5,125
30	-	4,250
35	-	3,375
40	-	2,500

Specimen rates for the Judges and Solicitor-General Scheme are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit					
Age	**Male Death**	**Female Death**	**Resignation**	**Age Retirement**	**Ill-health Retirement**
35	5	3	-	-	-
40	6	4	-	-	-
45	9	6	-	-	-
50	14	10	-	-	-
55	22	16	-	-	-
60	38	26	-	-	-
65	64	41	-	2,000	-

Specimen rates for the Parliamentary Service are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit					
Age	**Male Death**	**Female Death**	**Resignation[1]**	**Age Retirement**	**Ill-health Retirement**
35	5	3	2,500	-	-
40	6	4	2,500	-	-
45	9	6	2,500	-	-
50	14	10	2,500	-	-
55	22	16	2,500	-	-
60	38	26	2,500	-	-

[1] Assumed 25% of Parliamentary members resign every three years coinciding with election years.

Specimen rates for the Police Scheme are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit					
Age	**Male Death**	**Female Death**	**Resignation**	**Age Retirement**	**Ill-health Retirement**
35	5	3	20	-	600
40	6	4	-	-	600
45	9	6	-	-	600
50	14	10	-	250	300
55	-	-	-	10,000	-

Specimen rates for the Prisons Service Scheme are as follows:

Number out of 10,000 members aged X at the beginning of the year assumed to leave the Fund during the year for the following modes of exit					
Age	**Male Death**	**Female Death**	**Resignation**	**Age Retirement**	**Ill-health Retirement**
35	5	3	2,000	-	5
40	6	4	1,400	-	10
45	9	6	800	-	50
50	14	10	450	300	100
55	22	16	200	500	150
60	38	26	-	-	-

PENSIONER MORTALITY

The underlying mortality for pensioners is based on a Fund specific experience table completed in 2005.

Specimen rates are as follows:

Number assumed to die out of 10,000 at each age		
Age	**Males**	**Females**
65	106	74
70	181	108
75	312	190
80	578	354
85	950	681
90	1,525	1,229

In addition, we have made the following adjustments for mortality improvement:

- an allowance for past improvements (from September 2003 to June 2012) at the rate of 1.5% per annum; and
- an allowance for future improvements (from July 2012 onwards) at the rate of 1.5% per annum.

We have commenced the mortality improvement allowance from 1 September 2003 as this is the midpoint of the data analysed for the last mortality investigation, upon which the above pensioner mortality rates are based.

PROPORTION MARRIED

It was assumed that the percentage of members married gradually reduces as members age. Specimen rates are as follows:

% of members married at each age		
Age	**Male**	**Female**
35	68	69
40	72	71
45	75	72
50	76	72
55	78	71
60	77	68
65	76	63
70	74	54
75	71	42
80	63	27

EXPENSES

The administration and investment expenses of the Fund are currently met in part by the funding employers, with the balance paid by the Crown as provided by Section 15E of the Act. The contribution rates calculated for funding employers from 1 July 2013 include an allowance of 2.0% of salaries in respect of their share of expenses, inclusive of ESCT.

EMPLOYER SUPERANNUATION CONTRIBUTION TAX (ESCT)

ESCT has been allowed for in the calculation of all contribution rates, with the exception of the Islands scheme, where this tax does not apply. ESCT has been allowed for at a rate of 33%.

AGE DIFFERENCE AND LENGTH OF RELATIONSHIP BETWEEN PENSIONERS AND THEIR SPOUSES

It has been assumed that male pensioners were three years older than their spouses while, for female pensioners, it was assumed they were three years younger than their spouses.

It was assumed the length of the relationship between pensioners and their spouses was such that 50% of the pension reverts to the spouse upon the pensioner's death.

ASSUMED MIX OF LUMP SUMS/PENSIONS

Members were assumed to take their entitlements as a combination of lump sum and pension as follows:

Percentage of pension entitlements taken

	General Schemes	Islands	Armed Forces	Judges	Parliamentary	Police	Prisons Service
Retirement	90%	75%	100%	75%	75%	90%	75%
Death (spouse pension)	100%	100%	100%	100%	100%	100%	100%
Ill health	88%	75%	75%	n/a	n/a	88%	75%

Upon resignation, the percentage of members assumed to elect to receive a deferred pension is as follows:

Scheme	Percentage of eligible resigned members assumed to elect to receive a deferred pension
General Schemes	60%
Islands	20%
Armed Forces[1]	100%
Judges	n/a
Parliamentary[2]	100%
Police	20%
Prisons Service	20%

[1]eligible after 20 years of service
[2]eligible after 9 years of service

It is assumed that Parliamentary members will commute 25% of their deferred pension entitlements. In all other cases, no commutation is assumed.

ASSUMPTIONS USED FOR INACTIVE CONTRIBUTORS

We have split the inactive contributors membership group into Inactives(1) and Inactives(2).

The Inactives(1) group is in respect of contributors who have ceased to be members and have not received an entitlement from the Fund, but for whom salary or contribution information is available. We have valued these members assuming they receive either an immediate refund of contributions (if less than 10 years membership, or with a salary of nil or $1) or are entitled to a deferred pension (if more than 10 years membership and have a salary). The liability in respect of the members entitled to a deferred pension has been valued using the same method as that used for the 30 June 2011 statutory valuation, i.e. 25% of the value of the pension taken as a lump sum, commencement of pension from the later of current age and age 51 and no mortality in deferment.

The Inactives(2) group is in respect of contributors who ceased active membership prior to full computerisation of Fund membership records, but includes contributors for whom no reliable valuation data is available. We have taken an approach consistent with the 30 June 2011 statutory valuation and have not valued these members for this valuation, on the basis that these members appear to have very little service and so their liabilities are likely to be covered by the prudent assumptions used in valuing the Inactives(1) group, described above.

APPENDIX C.
SUMMARY OF ENTITLEMENTS

A summary of the entitlements of the seven schemes is set out below:

Membership	Part 2 / Old GS	Employees in Government service electing to join before 30 April 1985
	Part 2A / New GS	Employees in Government service electing to join before 30 June 1992 (1995 for Islands)
	Part 3A / AF	Members of the Armed Forces joining prior to 30 June 1992
	Part 5A and 5B / Judges	Judges and Associate Judges appointed prior to 30 June 1992
	Part 6 / MPs	Members of Parliament initially elected prior to 30 June 1992
	Part 6A / Police	Members of the Police joining prior to 30 June 1992
	Part 6B / PS	Members of the Prisons Service joining prior to 30 June 1992
Member Contributions	Old GS	6% if < 30 at date of joining 7% if 30-34 8% if 35-39 9% if 40-44 10% if 45-49 11% if >50 Some members may have elected, prior to 1 March 1970, to contribute at 1% less than the rates above. All members can elect to contribute at 6% for an entitlement reduced in the same proportion that 6% bears to the standard rate.
	New GS	6.5%
	AF	7.6%
	Judges	8%, until reach 16 years of service, then 0%
	MPs	11%, until reach 20 years service, then 8%
	Police	7.5%
	PS	8.5% (may cease contributing after 32 years)

Contributory Service	Old and New GS	Actual contributory service for all members
	AF	Actual contributory service plus any accrued leave at date of discharge or release
	Judges	Aggregate of all periods of contributory service as a Judge, temporary Judge or Associate Judge
	MPs	Actual contributory service as a member of Parliament
	Police	For members who joined before 1 May 1985 and 55 or over at retirement, then service is calculated as potential service up to age 60, with the period of additional service after retirement age further increased by 1/7th , to a maximum of 40 years For all other members, 125% of actual contributory service as a member of the Police, to a maximum of 40 years If actual contributory service is greater than 40 years, actual contributory service applies
	PS	125% of actual contributory service as a member of the Prison Service, to a maximum of 40 years. If actual contributory service is greater than 40 years, actual contributory service applies
Final Salary	All except Old GS, Judges and MPs	The lesser of salary in the last 12 months and the average of the last 5 years' salary, adjusted for CPI to date of exit
	Old GS	Average of the last 5 years' salary
	Judges	Salary at date of resignation or date of retirement
	MPs	Salary payable to a backbencher at the date on which the retiring allowance first becomes payable
Retirement Entitlement Eligibility	Old GS	Age 65, or age 60 and 40 years service, or age 50 and 20 years service with employer consent (other requirements apply to members of NZ Railways Corp or the Police, and certain females)
	New GS	Age 60 or age 50 with 10 years service and employer consent
	AF	20 years service, with at least 10 years in AF
	Judges	68 years or over 50 with 10 years service
	MPs	Over 50 with at least 9 years service
	Police	Over 50 with 10 years service with employer consent
	PS	58 years or 50 years with 8 years service and employer consent

Retirement Allowance Multiple	Old GS	70% of 1/60th per year of service up to 40 years plus 120th per year of service after 40 years. For members of the Island Schemes, the 70% factor is not applied
	New GS	1.05% per year of service adjusted for retirement before or after age 60 (add 0.0168% per year between age 60 and 65, subtract 0.0336% per year between age 55 and 60, subtract 0.0168% per year below 55). For members of the Island Schemes, all accrual rates are divided by 70%
	AF	1.05% per year of service
	Judges	70% of 1/24th (less 1/750th per year if age under 55) per year of service, to a maximum of 70% of 2/3rds
	MPs	70% of (1/30th per year of service up to 20 plus 1/120th per year of service over 20)
	Police	1.05% per year of service adjusted for retirement before age 55 (subtract 0.0336% per year between age 50 and 55)
	PS	1.05% per year of service adjusted for retirement before age 58 (subtract 0.0168% per year before age 53, subtract 0.0336% per year between age 53 and 58)
Retirement Entitlement	All parts except AF and MPs	Retirement allowance pension calculated at date of exit as Final Salary times Retirement Allowance Multiple Pensions in payment are increased annually with CPI in April each year. Commutation of up to 25% of the pension is optional
	AF and MPs	Retirement allowance pension calculated at date of exit as Final Salary times Retirement Allowance Multiple Pensions in payment are increased annually with CPI. Commutation of up to 25% of the pension is optional Members may defer their pension to age 55 or 60 for an additional lump sum
Medical Retirement Entitlement	All exceptMPs	Retirement allowance calculated as per normal retirement
	MPs	No special entitlement is payable on medical retirement

Death while Active with spouse	All parts except Old GS and MPs	Either: A. The greater of: a. One year's salary at date of death b. Refund of member contributions with interest B. 50% of the retirement allowance received if member had medically retired (option to commute part of members pension)
	Old GS	Either: A. The greater of: a. 50% of the retirement allowance received if member had retired on date of death b. $390 pa B. Refund of member contributions
	MPs	Before 9 years of service, refund of two times member contributions without interest With 9 or more years service, either: A. The greater of: a. One year's salary at date of death b. Refund of two times member contributions without interest B. 50% of the retirement allowance received if member was eligible to retire at date of death (option to commute part of the member's pension)
Death without spouse	All parts except Old GS and MPs	Return of member contributions with interest, less any pension payments already paid
	Old GS	Refund of member contributions without interest, less any pension payments already paid and any child allowance payments paid or payable
	MPs	Return of two times member contributions without interest, less any pension payments already paid

Death as Pensioner with spouse	All parts except Old GS and MPs	Either: A. Up to 50% of the pension reverts to an eligible spouse dependant on the length of the relationship B. Return of member contributions with interest, less any pension payments already paid
	Old GS	Either: A. The greater of: a. Up to 50% of pension reverts to an eligible spouse dependant on the length of the relationship. b. $390 pa if married before beginning pension, otherwise $0 B. Refund of member contributions, less any pension payments received
	MPs	Either: A. Up to 50% of the pension reverts to an eligible spouse dependant on the length of the relationship B. Return of two times member contributions without interest, less any pension payments already paid
Death – Child Allowance	All parts	Any member who dies leaving a child or children under 16 years (or are otherwise dependent on the deceased), each child receives an annual allowance of $1,000 increased with CPI since 1982 until they reach age 16 or 18 if in full time education Child allowances are paid in addition to any other death entitlements, except for Old GS where child allowances are deducted from the return of contributions on death without spouse, but are paid in addition to other death entitlements

Resignation	All parts except MPs, and Old Scheme	A. Refund of member contributions with interest; or B. With 10 or more years service (8 years if PS), deferred retiring allowance payable from age 50 or later (this option is not available to AF), or C. With 10 or more years service (8 years if PS), transfer value rolled into other superannuation fund equal to: Refund of member contributions with interest x (100%+10% per year of service from 10 to 20)
	MPs	Refund of two times member contributions without interest If have more than 9 years service and less than 50 on resignation, then entitled to a deferred pension payable from age 50 based on an ordinary MPs salary at that age and also commute some to a lump sum to be taken immediately
Withdrawal	All parts	A. Refund of member contributions without interest (not available to MPs, AF, Police and Judges); or B. If join another employer subsidised scheme and have sufficient service, entitled to a deferred pension from age 50
Death after resignation or withdrawal with spouse	All parts except MPs	A. Refund of member contributions with interest; or B. 50% pension, where pension is calculated using Final Salary at date of exit/withdrawal, then increased with CPI to date of death
	MPs	Two times member contributions without interest If ceased before age 50 and has more than 9 years service, then entitlement of 50% spouse pension is payable from death if die before age 50 or from pension commencement age if chose to defer pension to 55 or 60
Death after resignation or withdrawal without spouse	All parts except MPs	Refund of member contributions with interest to date of death
	MPs	Two times member contributions without interest

ADDITIONAL ENTITLEMENTS

Some Parts have entitlements on leave of absence without pay and temporary cessation of contributions. Entitlements are discounted per year of suspended service.

Members can surrender up to 50% of their retirement allowance to provide a pension for another person (the assignee). The value of the entitlement is actuarially determined so that the value of the entitlement is unchanged. The assignee's pension also increases with CPI and ceases on the assignee's death.