Cook Islands National Superannuation Fund

Actuarial Valuation as at 31 December 2019

12 August 2020

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Executive Summary

- This is an actuarial investigation report as at 31 December 2019 on the Cook Islands National Superannuation Fund (Fund).
- This report is addressed to the Board of the National Superannuation Fund and the Trustee of the Fund. This is the third time that Aon has performed a review of this Fund. The previous one was as at 31 December 2016.
- There were 12,008 active members and 278 pensioners of the Fund as at 31 December 2019.
- The market value of the Fund's assets used for the valuation was $187,992,093.
- The economic assumptions used were:

- Future investment return	4.50% pa
- Allocated rate to members accounts	4.00% pa
- Discount rate for valuing pensions	4.50% pa

- The demographic assumptions used were based on the experience of New Zealand Maori Population mortality according to the 2010-12 New Zealand Life Tables.
- Valuation results:

Value of Accrued Benefits	
Members' Accounts plus Reserves	$177,129,492
Pensions' Liabilities	$10,544,783
Total Accrued Benefits (A)	$187,674,275
Value of Assets (B)	$187,992,093
Surplus (B – A)	$317,818

The above result indicates that the Fund is in surplus. The Accrued Benefits include a Pension Reserve of $235,368 and a General Reserve of $2,086,170. The General Reserve includes a buffer of approximately $1.5 million to cover potential investment strains related to COVID-19. Provided the Fund's future experience is broadly consistent with the assumptions set out in Section 4 of this report and the Trustee continues to manage the Declared Rate (the interest rate credited to accounts) then:

- No specific additional funding in respect of the pensioners is required, and
- the Fund will continue to have an excess of Assets over Accrued Benefits for the following 12 month period.

Based on the assumptions set out in Section 4 of this report we recommend the following Pension Conversion Rates:

Age	$ Pension rate for each $1,000 of lump sum
55	57
56	58
57	59
58	60
59	60
60	61
61	62
62	63
63	64
64	66
65	67
66	68
67	69
68	71
69	72
70	74
71	76
72	78
73	79
74	82
75	84

- I recommend that the Trustee continue to maintain the current Declared Rate policy, which includes the provision that pensions' liabilities should be calculated at the date that the Declared Rate is being calculated. If the sum of the Pension and Pension Reserve Accounts are less than the value of the pensions' liabilities at that date, the Trustee transfer funds into the Pension Reserve Account from the Reserve Account and/or decrease the Declared Rates as advised by the Actuary.

1. Introduction

The Fund

1.1 The name of the Fund is the Cook Islands National Superannuation Fund.

The Fund had its genesis in the Cook Islands National Superannuation Act (Act) which was passed on 24 November 2000. The Act required the Board of the National Superannuation Fund to prepare a Trust Deed to establish the Fund.

A Trust Deed, with the Public Trust appointed as the first Trustee of the Fund (Trustee), was subsequently executed on 10 September 2001. The Trust Deed notes that the Fund is intended to be a national superannuation scheme such that all employees in the Cook Islands will contribute a part of their salary with an equal contribution from their employer. Fund membership includes employees of Government, state-owned enterprises and companies in the private sector.

Addressee

1.2 This report is addressed to the Board of the National Superannuation Fund and to the Trustee of the Fund.

Purpose

1.3 This actuarial review of the Fund was done at the request of the Board of the National Superannuation Fund and the Trustee of the Fund. This review was conducted as at 31 December 2019.

Statement Regarding Conflicts of Interest

1.4 The actuary responsible for the preparation of this report is Mr. Simon Ferry who is a Fellow of the New Zealand Society of Actuaries.

I work as an actuary for Aon New Zealand (Aon). Aon also acts as Investment Advisor to the Fund. This relationship does not in my opinion constitute a conflict of interest and it has not inhibited my ability to review the financial position of the Fund in the impartial manner required by my professional code of conduct and the actuarial standard referred to below.

Trust Deed, Benefits and Contributions

1.5 The Fund is governed by a trust deed dated 10 September 2001 (as amended). A summary of the provisions relating to benefits and contributions is given in Appendix A.

Previous Actuarial Investigation

1.6 We prepared the previous valuation report as at 31 December 2016. That examination commented on the Declared Rate policy and the calculated pension conversion rates for members of the Fund.

Management, Operation and Documentation of the Fund

1.7 I have not, in the course of this investigation or at any other time, become aware of any problems relating to the prudential management of the Fund's investments or any problems of the Fund in relation to any act or regulation and I am not aware of any problem that may affect the financial position of the Fund.

Certification

1.8 This report was prepared using the Professional Standard Number 40 – Actuarial Reporting for Superannuation Schemes – issued by the New Zealand Society of Actuaries as guidance. The valuation method and the financial, economic and demographic assumptions have been determined in accordance with the professional judgement of the actuary preparing this report.

Simon Ferry
Fellow of the New Zealand Society of Actuaries

12 August 2020

2. Summary of Results and Recommendations

Valuation Results

2.1 The results of my review as at 31 December 2019 are shown below. To value pensioners' mortality I have used the 2010-12 New Zealand Life Tables for Maori Population, consistent with the previous actuarial investigation. The only change to assumptions used in the previous actuarial investigation to value the pensioners' benefits was a decrease in the rate to value pensions from 5.25% to 4.5%, which increased the liability by approximately $642,000.

Under the valuation assumptions, the Fund has an excess of assets over liabilities.

Value of Accrued Benefits	**2019**
Members' Accounts plus Reserves	$177,129,492
Pensioners' Liabilities	$10,544,783
Total Accrued Benefits (A)	$187,674,275
Value of Assets (B)	$187,992,093
Surplus (B – A)	$317,818

I calculated the Pensioners' Liabilities of $10,544,783 as the present value of the expected future pension payments to existing pensioners and their spouses (if applicable) using the Data (section 3) and the Valuation Process and Assumptions (section 4).

The Accrued Benefits include a Pension Reserve of $235,368 and a General Reserve of $2,086,170. The General Reserve includes a buffer of approximately $1.5 million to cover potential investment strains related to COVID-19.

Provided the Fund's future experience is broadly consistent with the assumptions set out in Section 4 of this report and the Trustee continues to manage the Declared Rate (the interest rate credited to members' accounts) so that the sum of the Pension, Reserve and Pension Reserve Accounts exceed the value of the pensioner liabilities then:

- no specific, additional funding is required in respect of the pensioners, and
- the Fund will continue to have an excess of assets over liabilities over the following 12 months period.

The margin of the Pension Accounts plus the Pension Reserve Account over the pensioner liabilities is 100%. I do not anticipate any additional funding requirements other than the investment income allocation policy in use over the following 12 months period.

Funded Status

2.2 The funding level of the Fund as at 31 December 2019 is approximately 100%.

The interest rate adopted for discounting expected pension payments has a prudential margin to allow for uncertainty. A reduction in the discount rate by 0.5% would increase the pensioner liability by $494,000, representing an impact on the following year's Declared Rate of about 0.3% of the accounts' balances.

Pension Conversion Rates

2.3 Based on the Valuation Process and Assumptions set out in Section 4 of this report we recommend the Trustee to adopt the following Pension Conversion Rates for new pensioners (no change for current pensioners):

	Age	**$ Pension rate for each $1,000 of lump sum**		
		Recommended	**Current**	**Variance**
	55	57	63	-6
	56	58	64	-6
	57	59	64	-5
	58	60	65	-5
	59	60	66	-6
Normal Retirement Age:	**60**	**61**	**67**	**-6**
	61	62	68	-6
	62	63	69	-6
	63	64	69	-5
	64	66	71	-5
	65	67	72	-5
	66	68	73	-5
	67	69	74	-5
	68	71	76	-5
	69	72	78	-6
	70	74	79	-5
	71	76	81	-5
	72	78	83	-5
	73	79	85	-6
	74	82	87	-5
	75	84	89	-5

The decrease in the discount interest rate to value pensions has resulted in an increase in the cost of each dollar of pension (resulting in the increase in pension liability as set out in the first paragraph of 2.1 above). Therefore the pension that can be paid out of each $1,000 of lump sum has decreased, as set out in the above table.

The Normal Retirement Age is 60. However, a member can retire at any time from age 55 in case of ill health or redundancy.

Smoothing of Declared Rates and unfunded benefits risk

2.4 Using the current Declared Rate policy of crediting up to the declared rate to the Pension and Pension Reserve Accounts and transferring 0.5% of the Pension Account to the Pension Reserve Account, the likely future cash flows in respect of a single male member who takes a pension at age 60 are:

Age	Pension Account Balance (start of year)	Pension Payment	Interest Earned	Pension reserve account transfer	Pension Account Balance (end of year)	Pension Reserve Account (end of year)
60	1,000.00	61	43.63	4.85	977.78	4.85
61	977.78	61	42.63	4.74	954.67	9.80
62	954.67	61	41.59	4.62	930.64	14.86
63	930.64	61	40.51	4.50	905.64	20.03
64	905.64	61	39.38	4.38	879.65	25.31
65	879.65	61	38.21	4.25	852.62	30.70
66	852.62	61	37.00	4.11	824.50	36.19
67	824.50	61	35.73	3.97	795.26	41.79
68	795.26	61	34.41	3.82	764.85	47.49
69	764.85	61	33.05	3.67	733.22	53.30
70	733.22	61	31.62	3.51	700.33	59.21
71	700.33	61	30.14	3.35	666.13	65.22
72	666.13	61	28.60	3.18	630.55	71.34
73	630.55	61	27.00	3.00	593.55	77.55
74	593.55	61	25.34	2.82	555.08	83.85
75	555.08	61	23.61	2.62	515.06	90.25
76	515.06	61	21.81	2.42	473.44	96.73
77	473.44	61	19.93	2.21	430.16	103.30
78	430.16	61	17.98	2.00	385.15	109.95
79	385.15	61	15.96	1.77	338.33	116.67
80	338.33	61	13.85	1.54	289.64	123.46
81	289.64	61	11.66	1.30	239.01	130.31
82	239.01	61	9.38	1.04	186.35	137.22
83	186.35	61	7.01	0.78	131.58	144.17
84	131.58	61	4.55	0.51	74.63	151.16
85	74.63	61	1.99	0.22	15.39	158.19
86	15.39	61	0.00	0.00	-45.61	119.70
87	0.00	61	0.00	0.00	0.00	64.08
88	0.00	61	0.00	0.00	0.00	5.97
89	0.00	61	0.00	0.00	0.00	-54.76

The above illustration assumes a declared rate of 4.5% per annum, and a pension payment of $61 per annum per $1,000 lump sum, based on our recommended pension conversion rates on the previous page. Both Pension Account and Pension Reserve Account will be depleted once the pensioner turns 89.

I recommend that the Trustee continue to maintain the current Declared Rate policy, which includes the provision that pensions' liabilities should be calculated at the date that the Declared Rate is being calculated. If the sum of the Pension and Pension Reserve Accounts are less than the value of the pensions' liabilities at that date, the Trustee transfer funds into the Pension Reserve Account from the Reserve Account and/or decrease the Declared Rates as advised by the Actuary.

3. Data for the Actuarial Review

Source of Data

3.1 Data for this actuarial review was provided by the administrator of the Fund, Link Market Services.

The data used for this actuarial review comprise copies of the:

- audited accounts for the years ending 31 December 2016, 2017, 2018 and 2019,
- Trust Deed,
- Trustee Annual Reports for the years ending 31 December 2016, 2017, 2018 and 2019,
- Members', Employers', Pension, Reserve and Pension Reserve Accounts balances as at 31 December 2019, and
- we received the following data in respect of each pensioner:
  - name and sex,
  - date of birth, and
  - annual pension.

Adequacy of the Data

3.2 The membership and financial data supplied was sufficient for the purposes of the investigation, and in my opinion is sufficient and reliable.

Change in Membership

3.3 The change in membership numbers over the intervaluation period is shown below.

	Pensioners	**Other Members**	**Total**
At 31 December 2016	155	9,368	9,523
Entrants	123	3,351	3,474
Exits			
- retirements	-	234	234
- resignation/redundancies	-	388	388
- deaths / disablements	-	89	89
Members at 31 December 2019	**278**	**12,008**	**12,286**

Data Summary

3.4 The membership data is summarised below:

Pensioners

Number	278
Average age	65.9
Total pension payments	$699,732 pa

Active Members

Number	12,008
Total account balances	$171,833,270

4. Valuation Process and Assumptions

Funding Objectives and Method

4.1 The funding objective is to secure pensioners' and other members' benefits arising from past membership. For pensioners this means ensuring that the sum of the Pension, Reserve and Pension Reserve Accounts' balances is sufficient to cover future benefits, after allowing for future investment income.

As sufficient assets have been accumulated in the Pension, Reserve and Pension Reserve Account to secure the benefits in respect of the pensioners, then the Fund will remain fully funded and no future extra funding in respect of the pensioners will be necessary.

Actuarial Assumptions - Liabilities

4.2 The valuation assumptions used are as follows:

- determination of the Declared Rate,
- investment return, and
- rate of mortality of pensioners.

Determination of the Declared Rate

4.3 I have assumed the Trustee will continue to manage the Declared Rate (the interest rate credited to Member, Employer, Voluntary, Pension, Reserve and Pension Reserve Accounts) so that the Pension Accounts and the Pension Reserve Account balances are maintained at a level greater than the value of the pensioners' liabilities.

I have assumed that of the 4.50% future investment return to be earned by the Pension Accounts, 0.5% is transferred to the Pension Reserve Account and the remaining 4.00% is credited to the Pension Accounts.

Investment Return

I have assumed the Fund will continue to be exempt from tax.

On the basis of the Trustee's benchmark asset allocation for the Balanced Fund and the returns I currently anticipate for each sector in the medium to long term, I expect the Fund to earn, on average, 6.0% pa before expenses.

The investment return is assumed to be net of expenses. A provision of 1.20% pa for administration and investment expenses has been allowed for when setting the investment return assumption. The actual expense rate during the 12 month period to 31 December 2019 was 1.1% pa.

The investment return I have assumed for the valuation of pensioner liabilities is therefore 4.5% pa, made up as follows.

Best estimate of long term investment return	5.80% pa
Allowance for expenses	1.20% pa
Prudential margin	0.10% pa
Investment return used	4.50% pa

This return is 0.75% lower than the return used for the previous review. This change has increased the pensioner liability by approximately $642,000.

Actuarial Assumptions - Assets

4.4 The assets are valued at net market value at 31 December 2019 as disclosed in the audited financial statements. The audited accounts indicate that there are no contingent liabilities and none have been allowed for. I am not aware of any material risks posed by the assets apart from normal investment risks associated with the various asset classes invested in.

Pensioners' Assumptions

4.5 Pensioners are assumed to experience mortality at the rates in the latest New Zealand Life Tables 2010-12 for Maori Population. The same mortality assumption was used for the previous review in 2012. The prudential margin in the interest assumption is considered an adequate implicit allowance for expected improving mortality.

No pension increases have been granted since the Fund commenced and I have not made any allowance for future pension increases.

I have assumed that all pensioners, who were members of the Fund, are married with a spouse who is 10 years younger who will receive a pension for life upon the death of the pensioner.

Appendix A – Summary of Benefits

A.1 Introduction

The Fund operates in the manner of a defined contribution superannuation scheme with member and employer contributions being held separately. The Fund provides either lump sum or pension benefits on retirement. Material provisions relating to benefits applicable to members and operation of the Fund are summarised briefly below.

A.2 Operation of the Fund

Each year the Fund receives member and employer contributions, pays benefits and earns investment income on its assets. Each year the Trustee will determine how much of the investment income is to be credited to the Members' (including Voluntary), Pensioners', Reserve and Pension Reserve Accounts. Some of the investment income may be directed to the Reserve Account so that the Fund can smooth investment fluctuations and some to the Pension Reserve Account so that the any loss resulting from future longer than expected pensioners' life expectancy can be funded in advance.

A.3 Accounts

The Trust Deed provides for members and for pensioners to have their individual accounts and for the Fund to have a Reserve account and a Pension Reserve account. The manner in which monies can pass to and from the Reserve account and the Pension Reserve accounts is set out in concept in the Trust Deed.

A.4 Interest Rate Credited to Accounts

The interest rate (which may be negative) applied to the Members', Pensioners' Reserve and Pension reserve accounts is set by the Trustee each year having regard to the net investment return (or returns) earned on the underlying assets and other aspects that are addressed in the Fund's audited accounts. The rates credited will vary from year to year as the investment performance of the Fund's assets and operating expenses vary.

A.5 Retirement Benefit

On retirement and subject to the provisions of the Trust Deed, the member accounts are transferred to a pension account which is used to pay a pension, determined by reference to the account balance and the rate of pension conversion that the Trustee applies at the time of retirement of the member.

The Normal Retirement Age is 60. However, a member can retire at any time from age 55 in case of ill health or redundancy, or they can receive an early retirement pension benefit if they are totally and permanently disabled after this age.

Subject to the balances of the Members' Accounts and the Trust Deed provisions, the member may take this amount as a cash payment, or choose to receive a pension, or a combination of the two.

Upon the death of a pensioner with no spouse, any funds left in the pension account are paid to the estate of the member. Upon the death of a pensioner with a spouse, the spouse will continue to receive a pension payable from the pension account, generally at the same level as was being paid to the pensioner (subject to conditions). After the death of the pensioner and spouse, any funds left in the pension account are paid to the estate of the last of them to die. The pension that is payable may be altered by the Trustee, either up or down at such times as the Trustee shall decide.

As the pensions payable to individual pensioners and surviving spouses are made from the balances in the related pension accounts, it is likely the Pension Reserve and the Reserve accounts will be used for funding any shortfall due to longer than expected life expectancy of the pensioners.

A.6 Other Benefits

On death, the member and employer account balances, collectively known as the Compulsory Account, are paid to the member or the member's personal representative, or subject to conditions, set aside for the purposes of providing a spousal pension for life.

If a Member becomes totally and permanently disabled before the age of 55, either through injury or illness, they are entitled to a benefit determined on age and the applicable percentage of the Compulsory Account applying at that age.

Members who permanently depart from the Cook Islands to another jurisdiction may elect to transfer the transfer value of their contributions to an approved scheme in this jurisdiction (subject to conditions). Such a member can elect to receive this transfer value in cash if this member was a contract worker immediately prior to departing the Cook Islands or if the member moves to a jurisdiction in which there is no approved scheme in the five years following their departure.

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