



30 March 2022

Dr Suzy Morrissey
Director - Policy
Retirement Commission

By email: suzy@retirement.govt.nz

Dear Suzy,

Retirement Commission – KiwiSaver projections

You have asked us to provide you with hypothetical projections of KiwiSaver balances for males and females of various ages who first invested in KiwiSaver on 1 October 2007. This letter contains these results as well as the methodology used to arrive at these projections.

We have compared the asset projections to the average member balances that were presented in our March 2022 KiwiSaver Demographic Study.

1. Methodology and assumptions

To produce our projections, we have constructed a deterministic model which estimates a member's KiwiSaver balance at each month end from 1 October 2007 to 31 December 2021. This section sets out the methodology used to produce these projections.

The projections that we have produced are estimates only. The results shown are highly dependent on the assumptions set out in this section as well as publicly available data and data provided to us by third parties.

The projection of a generic member experience is inherently uncertain; actual member experiences are extremely varied and will depend on a wide variety of factors not tested by our model.

Earnings and Prescribed Investor Rate

Our model uses median weekly earnings data at 2007 from Stats NZ¹ to calculate an initial monthly earnings level at 1 October 2007. The median weekly earnings data is matched to the results we produce using a member's age and sex.

The model assumes steady monthly earnings, which grow by 3.5% on 1 April of each year. The Prescribed Investor Rate ("PIR") is determined based on a member's earnings over the previous two financial years. PIR earnings thresholds are shown in the Appendix.

Employee and employer contributions

The model assumes that members contribute monthly based on earnings at the minimum contribution rate that was in force at the time. Employer contributions are assumed to match the member contribution rate. The schedule of minimum contribution rates is provided in the Appendix.

Employee and employer contributions are added to a member's balance at the end of each month, with the first such contributions occurring on 31 October 2007.

¹ <https://nzdotstat.stats.govt.nz/>

The model assumes that members take no contribution holiday, nor do they switch investment strategies at any point, nor make any withdrawals such as a first home withdrawal.

Government contributions

On 1 October 2007, the model assumes members receive a \$1,000 kickstart payment from the Government that was provided at the time.

Government contributions (formerly member tax credits) are added by the model to members' balances on 30 June of each year, subject to the following employee contribution requirements:

- Prior to 1 July 2011, the Government contributes \$1 per dollar that a member has contributed during the year ending 30 June, up to a maximum Government contribution of \$1,042.86.
- From 1 July 2011, the Government contributes 50c per dollar that a member has contributed during the year ending 30 June, up to a maximum Government contribution of \$521.43.

Employer Superannuation Contribution Tax

Employer Superannuation Contribution Tax (ESCT) has been payable on an employer's KiwiSaver contributions since 1 April 2012. ESCT rates are deducted from all employer contributions at a rate given in the Appendix.

Investment returns

At each month end we have applied an investment return based on the performance of the average Conservative or Balanced KiwiSaver manager in the Melville Jessup Weaver Investment Survey ("the MJW Survey"). The performance therefore does not represent the returns of any single KiwiSaver provider.

While this database does not include all KiwiSaver Schemes, its coverage of the universe by funds under management is currently in excess of 90%.

Tax and charges

The returns data used is after the deduction of fund charges. We make a further deduction of \$30 per annum to allow for a typical fixed KiwiSaver administration fee. The returns data we use is also before the deduction of tax. We have made an estimated deduction for tax using the following methodology:

- We calculate a separate deduction for each asset class and make a weighted average tax deduction using the split of a member's balance into asset classes. This split is assumed each month to be as per the average monthly asset allocation from the relevant peer group (conservative or balanced) in the MJW Survey. The member's PIR is used as the relevant tax rate for all asset classes.
- We take the following approach to tax for New Zealand fixed income, global fixed income and cash:
 - Start with a gross investment return for each month equal to the average of the core wholesale fund returns in the relevant sector from the MJW Survey.
 - Apply a deduction to this return for fees and charges based on average KiwiSaver charges from the Sorted Smart Investor Compare KiwiSaver and Managed Funds Tool² (see Appendix).
 - Using this return, estimate the tax liability using the Comparative Value taxation method.
- We apply the Fair Dividend Rate taxation method for all alternative assets as well as all other overseas asset classes (excluding global fixed income).
- In the New Zealand equities and property sectors we apply the Comparative Value taxation method on income earned. This income is assumed to be 5% per annum including imputation credits for members at the highest PIR. Income derived from imputation credits is assumed to be proportionally lower for members at lower PIRs.

² <https://smartinvestor.sorted.org.nz/kiwisaver-and-managed-funds>

2. KiwiSaver Projections

The following tables show our projections for members joining a KiwiSaver scheme on 1 October 2007.

KiwiSaver Projections - Male

Age in 2007	Age in 2021	Average member balance at December 2021 \$	Conservative fund member		Balanced fund member	
			Projected December 2021 balance \$	Difference \$	Projected December 2021 balance \$	Difference \$
20	34	22,738	53,381	+30,643	66,433	+43,695
25	39	29,805	65,543	+35,738	81,456	+51,651
30	44	38,715	74,240	+35,525	92,267	+53,552
35	49	47,422	75,300	+27,879	93,599	+46,177
40	54	53,420	74,262	+20,841	92,314	+38,894
45	59	57,518	75,300	+17,782	93,599	+36,081
50	64	61,606	76,525	+14,920	95,112	+33,506

KiwiSaver Projections - Female

Age in 2007	Age in 2021	Average member balance at December 2021 \$	Conservative fund member		Balanced fund member	
			Projected December 2021 balance \$	Difference \$	Projected December 2021 balance \$	Difference \$
20	34	19,141	46,878	+27,738	58,289	+39,148
25	39	24,335	60,331	+35,996	74,939	+50,604
30	44	30,072	64,445	+34,373	80,072	+50,000
35	49	35,902	56,580	+20,679	70,332	+34,430
40	54	40,023	54,941	+14,918	68,380	+28,357
45	59	43,798	59,369	+15,571	73,706	+29,908
50	64	48,457	56,970	+8,514	70,818	+22,361

The results shown do not take into account the impact of inflation. The average member balance columns refer to our March 2022 document: "KiwiSaver Demographic Study". While our projections start from 1 October 2007, the average member balance series include members who joined KiwiSaver more recently.

The projected KiwiSaver balances are split as follows:

- By age at 2007, being 20, 25, 30, 35, 40, 45 or 50.
- By sex, being male or female.
- By investment fund type, being conservative or balanced.

I look forward to discussing this further with you.

Yours sincerely,



William Nelson
Actuary

cc Ben Trollip

Appendix – Detailed modelling assumptions

Median weekly earnings - 1 October 2007

Member age	Male \$	Female \$
20	580	500
25	767	675
30	921	746
35	940	621
40	924	600
45	940	660
50	959	626

Employer Superannuation Contribution Tax

Member earnings + employer contribution	Rate prior to 1-Apr-21	Rate from 1-Apr-21
\$0 - \$16,800	10.5%	10.5%
\$16,801 - \$57,600	17.5%	17.5%
\$57,601 to \$84,000	30.0%	30.0%
\$84,001 to \$216,000	33.0%	33.0%
\$216,000+	33.0%	39.0%

Average KiwiSaver fund charges

Fund type	Average charges per annum
Balanced Funds	1.20%
Conservative Funds	1.05%

Employee minimum contribution rate

Year end	Employee minimum contribution rate
31-Mar-07	4.0%
31-Mar-08	4.0%
31-Mar-09	4.0%
31-Mar-10	2.0%
31-Mar-11	2.0%
31-Mar-12	2.0%
31-Mar-13	2.0%
31-Mar-14	3.0%
31-Mar-15	3.0%
31-Mar-16	3.0%
31-Mar-17	3.0%
31-Mar-18	3.0%
31-Mar-19	3.0%
31-Mar-20	3.0%
31-Mar-21	3.0%
31-Mar-22	3.0%

Prescribed Investor Rates

Income (lowest of previous two tax years)	PIR
\$0 - \$14,000	10.50%
\$14,001 - \$48,000	17.50%
\$48,001+	28.00%