Retirement savings adequacy: 6% + 6% Contribution to KiwiSaver

By the Retirement Income Interest Group
of the New Zealand Society of Actuaries

June 2026

Contents

Introduction

This report is written by the Retirement Income Interest Group (**RIIG**) and published by the New Zealand Society of Actuaries (**NZSA**). NZSA is the professional body for actuaries practising in New Zealand. Actuaries find insights by analysing past trends, estimating future outcomes and managing future risks. Actuaries provide advice in sectors including superannuation and KiwiSaver, insurance, healthcare, banking and investments. NZSA publishes Thought Leadership reports in the public interest.

RIIG has produced thought leadership reports on retirement income policy since 2015. RIIG's most recent paper, **Retirement Savings: A framework for adequacy,** considered how much saving is needed for retirement in New Zealand. The current paper is an addendum to that framework for adequacy paper and should read in conjunction with that paper.

Current members of RIIG are Christine Ormrod, Colin Downie, Daniel Stoner, Ian Perera (Convenor) and Kelvin Prisk. All are members of NZSA.

We would like to acknowledge Alison O'Connell who was a co-author of the previous paper on Retirement Savings adequacy.

Where views are expressed in this paper, they are the personal views of the authors. This paper does not necessarily reflect the positions of our employers or other members of NZSA. Any errors are our own.

The paper is not financial advice. It is intended for informed readers – policy makers, regulators, providers or advisers – and we hope it is also interesting for individuals who are considering how to prepare for their own retirement.

For further information please contact riigconvenor@actuaries.org.nz.

Suggested citation: RIIG. (2026). " Retirement savings: 6% + 6% KiwiSaver contribution." Retirement Income Interest Group of the New Zealand Society of Actuaries

Summary

Our September 2025 paper **Retirement Savings: A framework for adequacy** examined how much saving is needed for retirement in New Zealand. In this paper, we concluded that:

- **the default level of KiwiSaver contributions should be set so the median earner is likely to achieve our definition of adequacy with a modest buffer against adverse changes in the savings phase.** Some flex from the hypothetical full savings career should be allowed for but should not be so large that it causes over-saving.

Our modelling suggested a 5% contribution from the member and 5% contribution from the employer would meet this objective.

The current regime includes an increase in minimum member and employer contributions to 3.5%, which took effect in April 2026, and a further increase to 4.0% scheduled for April 2028, with no change to other settings.

Since those changes were announced, there have been some calls for contribution rates to KiwiSaver to be increased to 6% from the member and 6% from the employer, with or without an increase in the age of eligibility for NZ Super from age 65 to age 67.

This paper extends our earlier analysis to consider the implications if the KiwiSaver contribution rate is 6% for both members and employers. We also consider the impact of alternative investment return assumptions.

No changes are proposed to other aspects of KiwiSaver setting and in this paper we assume KiwiSaver settings, other than the contribution rate, remain unchanged.

We do examine how the findings would change if the age of eligibility for NZ Super were extended to 67.

We use an adequacy framework based on replacement rates

- **We use a method of assessing adequacy based on 80%-100% replacement rate**, defined as net income immediately after retirement divided by net income immediately before retirement. Net income is income after income tax, ACC levy and KiwiSaver contribution.

The replacement rate approach to adequacy is consistent with the legislative purpose of KiwiSaver which is "to encourage a long-term savings habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in pre-retirement.".

Key findings from our testing of a 6% member and employer contribution to KiwiSaver, once fully implemented, are:

Median Earner

- A median earner saving continuously from age 22 in a fund that returns 4.5% each year net of tax and expenses (i.e. 2.5% each year above our CPI inflation assumption of 2% each year) and withdrawing KiwiSaver under the 6% Rule of Thumb can expect retirement income immediately after retirement close to their pre-retirement income.
- Investment returns significantly impact retirement income; median earners who achieve a return of 5.5% each year net of tax and expenses (i.e. 3.5% each year above our CPI inflation assumption of 2% each year) are projected to have a net retirement income which exceeds their pre-retirement income if they start saving at age 22 or earlier, when using the 6% Rule of Thumb.
- First home buyer withdrawals after age 40 substantially reduce the likelihood of an adequate retirement income.
- Overall, this level may be suitable for a median earner contributing throughout their career and making a first home withdrawal in their thirties. A 5% + 5% contribution could be a better fit for those contributing throughout their career and not making a first home withdrawal.

Minimum Wage Earner

- For minimum wage earners a 6% KiwiSaver contribution may be excessive, as it could result in them having higher spending capacity after retirement than before retirement. Higher spending capacity in retirement is not inherently undesirable. However, for this group the reduction in consumption before retirement may be more consequential, particularly during periods of higher expenses such as childcare or mortgage servicing.
- This group may be more likely to reduce or suspend contributions for prolonged periods of their working lifetime. The tension between current financial hardship and missing out on a 6% employer contribution to improve long term outcomes could be a concern for this group.

Higher Earner

- People earning in the top 10% throughout working life are unlikely to reach a replacement rate of 80% without working after age 65 or making additional voluntary contributions. However, a suitable replacement rate for individuals in this group is likely to be a personal choice that may be made with advice. A replacement rate below 80% may be acceptable for most people in this group.
- Although their replacement rate is lower than median earners they will have more income in absolute terms.

Overall, given current superannuation settings, we continue to think that a 5% member and 5% employer contribution is a suitable default level. This gives a better balance between pre-retirement and retirement spending capacity, particularly for lower earners.

Chapter 1. Testing retirement income adequacy

Framing around replacement rates

We define replacement rate as:

(income immediately after retirement *less* tax)
divided by
(income before retirement *less* KiwiSaver contribution *less* ACC levy *less* tax).

In this model, income before retirement is salary. Income in retirement is NZ Super plus KiwiSaver drawdown. We use **after tax** income as that is what is available to spend.

Replacement rates use an individual's own earnings to consider how much income is adequate in retirement for that individual. Lower earners will generally need a higher replacement rate and a lower replacement rate may be adequate for higher-income households[1].

This replacement rate allows for New Zealand taxation. We allow directly for income tax and ACC levies on earnings and income tax on NZ Super. KiwiSaver withdrawals are tax-free. In other countries, some or all such income is taxed. As a result, our method results in higher replacement rates than quoted in other research[2] which do not allow for the impact of tax or apply when all retirement income is taxed.

The replacement rate properly allows for KiwiSaver contributions to cease. Our approach recognises that saving for retirement ceases once a person reaches retirement.

In this paper, we calculate the savings likely to be reached by age 65 using "base case" individuals, a medium income earner, someone on the minimum wage and someone at about the top 10 percentile level. They have an unbroken full-time career of saving, under stable policy settings and stop work at age 65. We then change assumptions one-by-one to test the effect on savings of different life scenarios, rates of drawdown of KiwiSaver and policy reforms.

We assume an initial replacement rate of 80% - 100% as suitable for most New Zealanders, based on:

- The reduction in actual median household spending on retirement in New Zealand is around 20%[3]. International research puts the desirable reduction to maintain living standards nearer to 10%[4].
- We select a 10% reduction (90% replacement rate) as the central case to reflect that actual reductions may not be preferences. A 10% reduction defines a replacement rate for a median earner of 100% - 10% = 90%.
- We suggest a range + or -10% around the central 90% given everyone's circumstances and retirement income needs differ.

For most people:

- A replacement rate of below 80% would lead to a more significant reduction in spending power post-retirement.
- A replacement rate of over 100% indicates a higher level of saving than necessary.

We allow for spending to decline in real terms after retirement

International and local evidence suggests a reduction in real (inflation-adjusted) spending through retirement is likely for many New Zealand retirees. Analysis suggests a typical scenario for New Zealand retirees is that real spending reduces by around 2% a year, that is, retirees' spending growth is below general price inflation by that amount for each year after age 65 or full retirement (whichever comes later)[5].

For this reason, we allow for post-retirement spending funded by the KiwiSaver balance to decline in real terms. NZ Super provides inflation protection for the rest of the spending.

We assume the individual draws down 6% of the starting value of the fund. We use the 6% Rule of Thumb for drawdown here as we have previously illustrated how this is a good fit to the common experience of spending higher in early retirement, reducing in real terms through retirement.

This strategy is likely to be appropriate for most New Zealanders though individual circumstances may differ. For example, if rent is a high proportion of expenditure then spending may not reduce by much in real terms.

These conclusions are all based on what is likely to happen for most New Zealanders. Individuals may have actual experiences different to this. For example, ending mortgage payments or work income may be lumpier. But the essence of a useful savings target is based on the stylised likely situation and possible variations within a guide range. Perfect knowledge as to what is exactly going to happen to each individual in 40+ years' time is not possible.

Assumptions and scenarios

This paper is an addendum to RIIG's previous paper, **Retirement Savings: A framework for adequacy, issued in September 2025** and so we have kept the assumptions the same as in that paper, to make the results directly comparable. This means "current' and 'present day' are 2025.

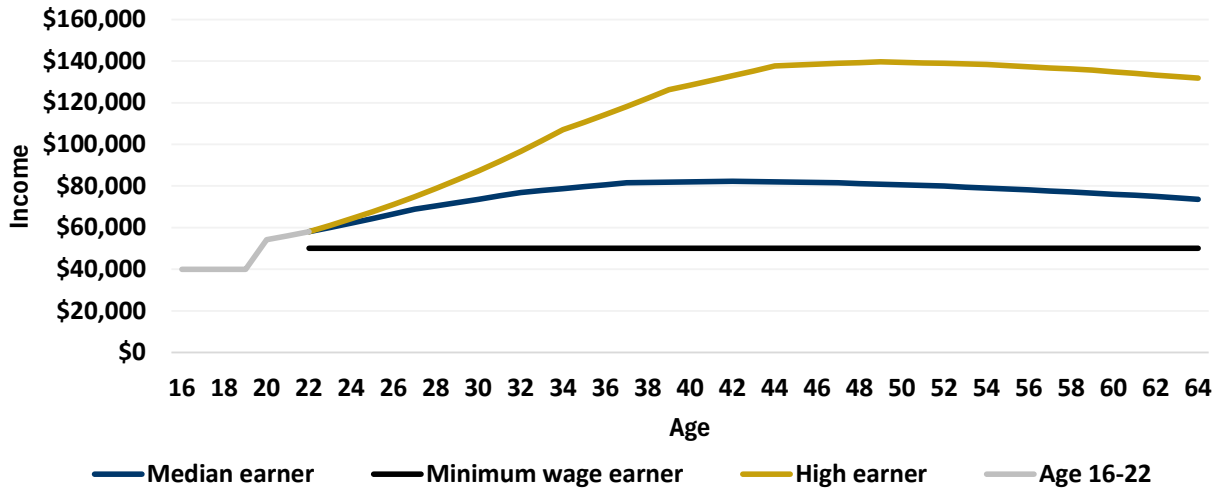
The assumptions we use for the calculations are detailed in the Appendix.

We define the base case by the following:

- **Contributions to KiwiSaver start at age 22** at 6% of salary from the member, with an additional 6% of salary contribution from their employer, and these continue to age 65. Most people move into full-time employment at some point in the 20 to 24 age range[6].
- **Price inflation at 2% a year. Salary and NZ Super inflation at 1% above price inflation, i.e. at 3% a year**. Data shows salaries have increased more than prices over time.
- **Receiving NZ Super** at the rate an individual would receive as part of a couple.

We have shown the results on each scenario for three stylised individuals: a median earner, a minimum wage earner and a higher earner. The salary progressions of the individuals modelled are shown below in **Chart 1**. More details on these stylised individuals is contained in the appendix.

Chart 1: Annual gross salary of the individuals modelled in present day earnings dollars, by age



We also show the results for three different investment returns: 3.5%, 4.5% and 5.5% each year. These returns are after tax and fees. While these returns are consistent with RIIG's most recent long term assumed returns for conservative, balanced and growth funds respectively, investment return outcomes might be at these levels whatever type of fund the saver is invested in.

The level of investment returns achieved over the long term of the savings phase will have a critical impact on the available funds at retirement. We do not test the impact of investment volatility in this paper.

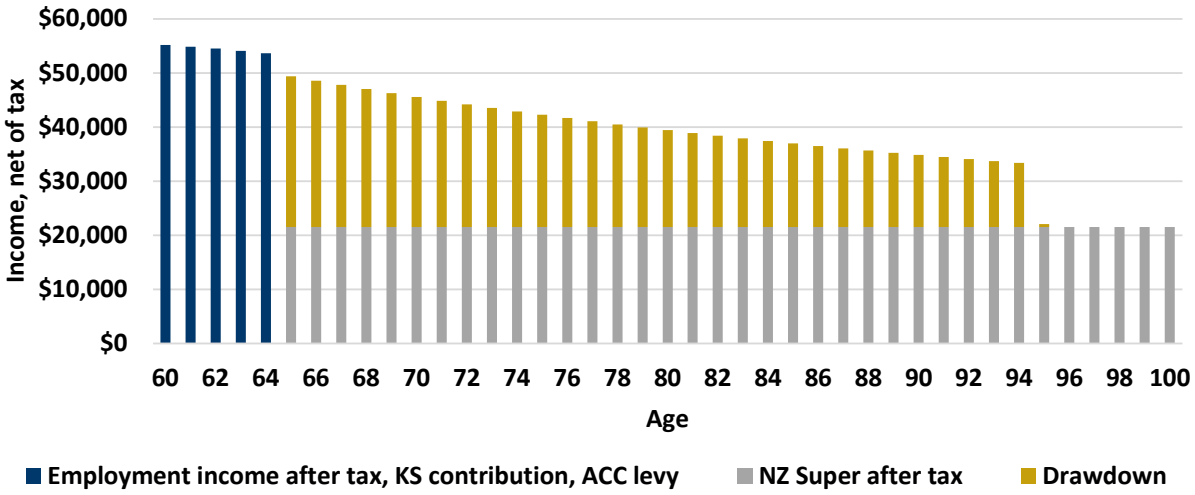
Not every individual will be employed from age 22 to 65 and contribute to KiwiSaver for this entire time. Some will withdraw their KiwiSaver for a first home. We have therefore shown the impact of some of the more likely scenarios, including first home withdrawal.

Chapter 2. Results of our testing

Median earner

Chart 2 shows the modelled income from age 60 to 100 for our base-case full-career saver on median earnings, invested in a fund that returns 4.5% each year net of tax and expenses and drawing down their KiwiSaver using the 6% Rule of Thumb. It shows net employment income in blue, then after retirement, income comes from net of tax NZ Super (in grey) and drawdown of KiwiSaver (in gold). The income amounts are shown in today's earnings terms.

Chart 2 Median earner, projected annual income in present day earnings dollars - drawdown under the 6% Rule of Thumb and invested in a fund that returns 4.5% each year net.



This individual can expect an income immediately after retirement that is only fractionally less than their income while employed. Income then reduces in real (inflation adjusted) terms by 1.3% each year, on average from then until age 94. After that, if still alive, the retiree is fully dependent on NZ Super.

Table 1 shows the result for each combination of life scenario and investment return.

We apply a visual scale as follows, based on the acceptable replacement rate of 80% - 100% but allowing for modelling imprecision:

- **Green** if replacement rate is 83% to 100%, suggesting that retirement income *is likely to be* adequate.
- **Pink** if replacement rate is between 78% and 82%. Likely retirement income is on the edge of our criteria but *may be* adequate.
- **Red** if replacement rate is 77% or below. Retirement income *is unlikely to be* adequate.
- **Blue** if replacement rate is over 100%, i.e. net income in retirement is greater than before retirement, meaning the rate of saving was more than necessary.

Table 1: Median earner – projected replacement rates 6% member + 6% employer contributions

Drawdown using the 6% Rule of Thumb		Investment return (net of tax and expenses)		
		3.5% p.a.	**4.5% p.a.**	**5.5% p.a.**
1 (Base)	**Start savings at age 22 and continue until age 65.**	82%	92%	105%
2	**Start savings at age 16**, rather than age 22.	86%	98%	115%
3	**3-year savings suspension at age 30**	79%	88%	100%
4	**First home buyer maximum withdrawal at age 30.** An individual who does not start saving until age 30 will have similar outcomes.	75%	81%	90%
5	**First home buyer maximum withdrawal at age 40.** An individual who does not saving until age 40 will have similar outcomes.	64%	67%	71%
6(1)	**Retirement at age 60**, drawdown starts age 65. No income ages 60 to 65.	75%	85%	98%
7(2)	**Retirement at age 67**. Member and employer contributions to 67. NZ Super at age 67.	85%	97%	112%

1. In scenario 6, replacement rates are income at age 65 as a percentage of earning for year age 59.
2. In scenario 7, replacement rates are income at age 67 as a percentage of earning for year age 66.

From this we can see:

- **Long term investment returns are critical to retirees' incomes**. For those who achieve a return of 5.5% each year (3.5% above CPI inflation), their projected net retirement income exceeds their pre-retirement income if they start saving at age 22.
- **With a 6% contribution rate from the member and 6% contribution from the employer, a median earner may have an income immediately after retirement that exceeds their income before retirement**, if they do not take a first homeowner withdrawal and if investment returns are favourable.
- **Withdrawing funds for a first home deposit at a later age and/or low investment returns could lead to an inadequate net retirement income**.

For a median earner, NZ Super alone provides a replacement ratio of 40%.

The first homeowner withdrawal option means that KiwiSaver is not a pure retirement saving scheme and with the higher contribution rates, the amounts available for a first home are increased. In our examples above, the current maximum value of the first homeowner withdrawals are $58,000 for withdrawal at age 30 and $154,000 for withdrawal at age 40, for our medium earner invested in a fund returning 4.5% each year net of tax and expenses. The trade-off between a higher first home deposit and lower KiwiSaver balances at retirement is clear.

Minimum wage earner

KiwiSaver balances at retirement for the minimum wage earner will be less than for the median earner, due to the minimum wage earner's lower savings before retirement.

We again assume the KiwiSaver balances are drawn down using the 6% Rule of Thumb, which provides an income which is level in nominal terms rather than inflation adjusted terms. In our base case of savings starting at age 22 and 4.5% investment returns each year net of tax and expenses, the overall real terms income in retirement would start at 108% of the pre-retirement income and reduce at 1.1% each year on average. The reduction rate is slightly lower than for the median earner, as NZ Super forms a great proportion of income in retirement and NZ Super increases with wage inflation. **Chart 3** shows the effect of this. It shows the modelled income from age 60 to 100 for a full-career saver on minimum wage earnings, invested in a fund that returns 4.5% each year net of tax and expenses and drawing down their KiwiSaver using the 6% Rule of Thumb. It shows net employment income in blue, net of tax NZ Super (in grey) and drawdown of KiwiSaver (in gold). The income amounts are shown in today's earnings terms.

Chart 3 Minimum wage earner, projected annual income in present day earnings dollars - drawdown under the 6% Rule of Thumb and invested in a fund that returns 4.5% each year net of tax and expenses

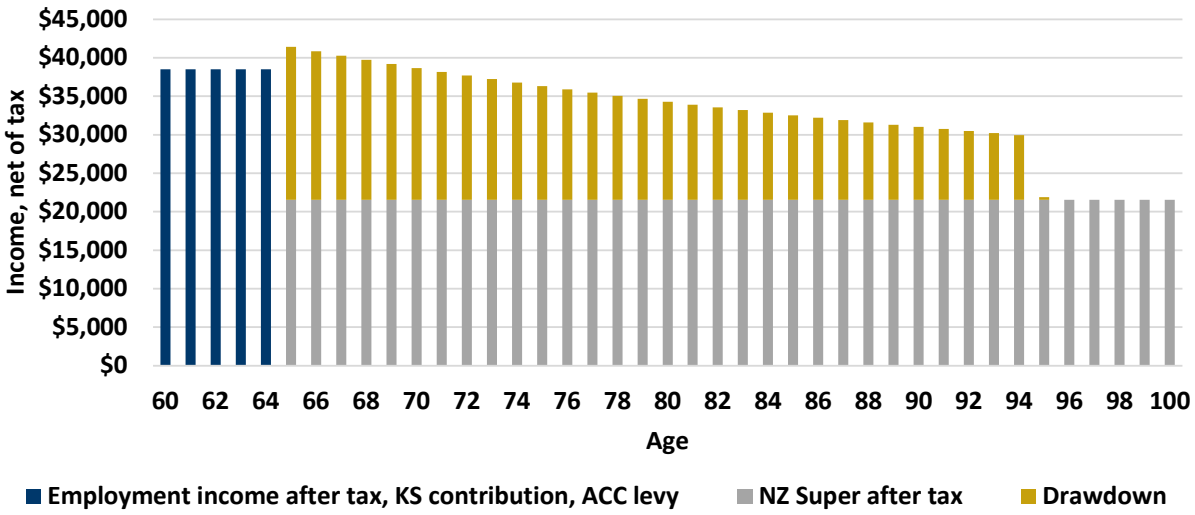


Table 2 shows the result for each combination of life scenario and investment return. In each of these scenarios, the KiwiSaver drawdown is projected to last until at least age 94 and the tests therefore focus on adequacy of income before that age.

Table 2: Minimum wage earner – projected replacement rates 6% member + 6% employer contributions

Drawdown using the 6% Rule of Thumb		Investment return (net of tax and expenses)		
		3.5% p.a.	**4.5% p.a.**	**5.5% p.a.**
1 (Base)	**Start savings at age 22 and continue until age 65.**	97%	108%	121%
2	**Start savings at age 16**, rather than age 22.	117%	131%	150%
3	**3-year savings suspension at age 30**	94%	103%	115%
4	**First home buyer maximum withdrawal at age 30.** An individual who does not start saving until age 30 will have similar outcomes.	89%	95%	103%
5	**First home buyer maximum withdrawal at age 40.** An individual who does not saving until age 40 will have similar outcomes.	79%	82%	85%
6[(1)]	**Retirement at age 60**, drawdown starts age 65. No income ages 60 to 65.	93%	103%	117%
7[(2)]	**Retirement at age 67**. Member and employer contributions to 67. NZ Super at age 67.	99%	111%	126%

1. In scenario 6, replacement rates are income at age 65 as a percentage of earning for year age 59.
2. In scenario 7, replacement rates are income at age 67 as a percentage of earning for year age 66.

From this we can see long term investment returns are still crucial to the example minimum wage earner but in most cases the replacement ratio is either adequate or higher than pre-retirement

For a minimum wage earner, NZ Super alone provides a replacement ratio of 56%.

For minimum wage earners a 6% KiwiSaver contribution may be excessive, as it could result in them having higher spending capacity after retirement than before. Higher spending capacity in retirement is not inherently undesirable. However, for this group the reduction in consumption before retirement may be more consequential, particularly during periods of higher expenses such as childcare or mortgage servicing.

This group may be more likely to reduce or suspend contributions for prolonged periods of their working lifetime. The tension between current financial hardship and missing out on a 6% employer contribution to improve long term outcomes could be a concern.

The current values of the first homeowner withdrawals are $47,000 for withdrawal at age 30 and $115,000 for withdrawal at age 40, for our minimum wage earner invested in a fund returning 4.5% each year net.

This highlights that 6% KiwiSaver settings would allow for significant deposits even for minimum wage earners.

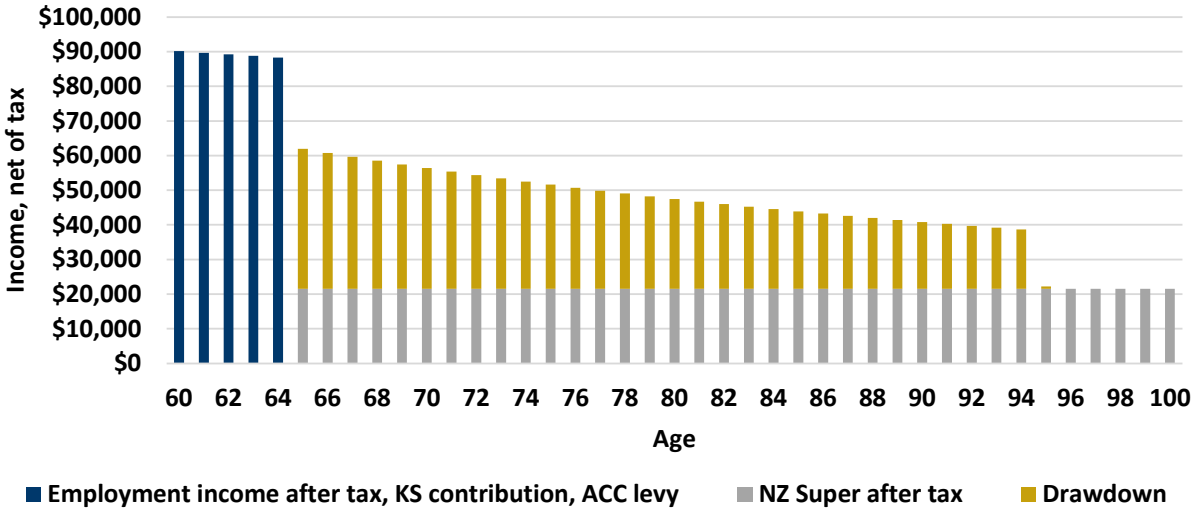
Increasing the retirement age to 67 potentially exacerbates the risk of an excessive replacement rate.

Higher earner

Our higher earner is designed to reflect someone at the 90th percentile, i.e. just in the top 10% of earners in New Zealand.

Chart 4 below shows their projected net of tax income at each age in retirement.

Chart 4 Higher earner, projected annual income in present day earnings dollars - drawdown under the 6% Rule of Thumb and invested in a fund that returns 4.5% each year net of tax and expenses



As in previous tables, **Table 3** shows the result for each combination of life scenario and investment return.

In our base case of savings starting at age 22 and investment in a fund that returns 4.5% each year net of tax and expenses, then the overall real terms income in retirement would start at 70% of the pre-retirement income and reduce at 1.6% each year on average. NZ Super alone provides a replacement ratio of 24%.

People earning at a high level throughout their working life are unlikely to reach a replacement rate of 80% without either working beyond age 65 or making additional voluntary contributions.

This reflects two main factors. First, NZ Super represents a much smaller proportion of pre-retirement income for high earners. Second, rapid salary growth means that contributions made earlier in the career become less significant when expressed as a proportion of final salary.

The current values of the first homeowner withdrawals are $61,000 for withdrawal at age 30 and $186,000 for withdrawal at age 40, for our high earner invested in a fund returning 4.5% each year net.

However, a suitable replacement rate for individuals in this group is likely to be a personal choice that will be made with advice. A replacement rate below 80% may be acceptable for many people in this group. Although their replacement rate is lower than median earners they will have more income in absolute terms.

Table 3: High earner – projected replacement rates 6% member +6% employer contributions

Drawdown using the 6% Rule of Thumb		**Investment return (net of tax and expenses)**		
		3.5% p.a.	**4.5% p.a.**	**5.5% p.a.**
1 (Base)	**Start savings at age 22 and continue until age 65.**	62%	70%	81%
2	**Start savings at age 16**, rather than age 22.	70%	80%	93%
3	**3-year savings suspension at age 30**	60%	67%	76%
4	**First home buyer maximum withdrawal at age 30.** An individual who does not start saving until age 30 will have similar outcomes.	57%	63%	71%
5	**First home buyer maximum withdrawal at age 40.** An individual who does not start saving until age 40 will have similar outcomes.	49%	52%	56%
6[(1)]	**Retirement at age 60**, drawdown starts age 65. No income ages 60 to 65.	56%	64%	74%
7[(2)]	**Retirement at age 67**. Member and employer contributions to 67. NZ Super at age 67.	65%	74%	86%

1. In scenario 6, replacement rates are income at age 65 as a percentage of earning for year age 59
2. In scenario 7, replacement rates are income at age 67 as a percentage of earning for year age 66

Chapter 3. Limitations to this analysis

Adequacy is about preferences: some people may be happy with less income or want more. This testing looks at what we believe is a suitable range of criteria for considering policy settings. The guide numbers in this paper are for general purpose, not for individual preferences. In practice, there will not be a single drawdown path to suit everybody[7]. As people get closer to retirement, our recommendation remains to consider RIIG's four Rules of Thumb, using the Sorted Retirement Navigator[8], to choose a preferred start to drawdown and then review regularly. In this paper, we simplified the modelling of the drawdown phase, as described earlier, and we believe this approach is suitable for the purposes of this paper.

Assets beyond KiwiSaver are not modelled. This analysis focuses on income derived from KiwiSaver and NZ Super only. It does not incorporate other assets that retirees may hold, such as housing equity, an emergency fund, non-KiwiSaver investments, or business assets, which may supplement retirement income for some individuals.

There are other scenarios for life or policy changes. As with all models, this analysis is an abstract representation of reality and does not capture every plausible life or policy scenario. We have not modelled multiple contribution gaps, different household arrangements, or the impact of divorce or widowhood. There are additional considerations for self-employed individuals. Compensating factors would exist for some of these cases. The results will be sensitive to small changes in some assumptions, including investment returns net of tax and expenses. **We would be happy to receive suggestions for other scenarios or assumptions to test in our model.**

The replacement rate method assumes a cliff-edge of stopping work – full time work to immediately ceasing work. The replacement rate suggested may not be suitable if later career pay has been constrained or if an individual has high costs relative to late career pay. It does not account for continued earnings after "retirement". For most New Zealanders, the reality of retirement will be more complex.

Appendix. Data, calculation methodology and assumptions

Salary and tax data	• Salary information was based on New Zealand data taken from Stats NZ Tatauranga Aotearoa. Median salary promotion was based on median hourly earnings by age band over the period 2015 to 2024. • The following data was taken from the Inland Revenue website: ▪ NZ Super from 1 April 2025 for someone as part of a couple: $476.50 per week each (excludes winter energy payment). ▪ Government KiwiSaver annual contribution of $261.72 for those earning less than $180,000. ▪ The income tax bands and rates (based on the tax year 2025/26) for income tax and Employer Superannuation Contribution Tax (ESCT). ▪ The rate of Accident and Compensation (ACC) levies and maximum salary applicable (based on tax year 2025/26).
Calculation methodology	• We have projected the KiwiSaver account balance for an individual using the assumptions below. • Three different salary scenarios are used, as described below and illustrated in Chart 1: ○ **"Median earner"** – This starts by using the median hourly earnings for the age 20 to 24 age band in the year 2024, increased by 4% to account for wage inflation to 2025 (this equates to an annual salary of approximately $58,000 in 2025 for someone at age 22). Thereafter, this is increased by a median promotional scale on top of wage inflation at 3% a year (CPI at 2% + 1% a year). This promotional scale has been derived from the change in median earnings data by age bands over the period 2015-2024. As a result, our median salary individual is assumed to start saving in KiwiSaver at age 22, when they are on a salary of $58,000, their salary will increase in 2025 terms to peak at $82,290 when they are 42 and then gradually fall in 2025 terms to $73,572 when they are aged 64. **Assumed annual median promotional salary increases from one age band to the next, in excess of wage inflation of 3% a year** **22 to 26** **27 to 31** **32 to 36** **37 to 41** **42 to 46** **47 to 41** **52 to 56** **57 to 61** **62+** 3.6% 2.3% 1.2% 0.2% -0.2% -0.4% -0.6% -0.7% -1.0% Note that the all-ages median full-time salary is around $78,500 gross in 2025 terms. ○ **"Minimum wage earner"** – This represents someone who always earns close to the minimum wage. The minimum wage at 1 April 2025, assuming a 40-hour working week, results in a salary of $49,021 per annum. Our "Minimum wage earner" has a starting

salary at age 22 of $50,000. Wage inflation of 3% a year is applied but there are no real wage increases.

- **"High earner"** – This starts off with the same salary at age 22 in 2025 as the median salary earner but has a higher progression of salary increases. As a result, our high earner is assumed to start on a salary of $58,000, their salary will increase in 2025 terms to peak at $139,705 when they are age 49 and then gradually fall in 2025 terms to $131,782 when they are age 64. Based on IRD Wage and Salary distributions for individuals, 2024, this would mean that this individual broadly achieves income to be in the top 10% of earners.

- Salaries increase at the start of each year after the first projection year.

- Individuals only contribute to a KiwiSaver (as opposed to an alternative superannuation scheme) and no other savings are allowed for.

- Government KiwiSaver contribution fixed at $261.72 for those earning less than $180,000. No increases assumed in future government contribution, and we assumed that the $180,000 threshold remains fixed in nominal terms.

- NZ Super rate in retirement is taken as the rate for an individual who is part of a couple (both eligible).

- In the drawdown phase, annual amounts are drawn down on average halfway through the year.

- No other taxable income in retirement assumed i.e. only income is through NZ Super and KiwiSaver drawdown.

- Investment returns are fixed at 3.5%, 4.5% and 5.5% a year. Returns post-retirement are the same as returns pre-retirement unless stated otherwise. These are after tax and fees, both of which are important for returns.

- The results can be significantly influenced by volatility in investment returns. This paper does not investigate this effect and no volatility in the investment returns. Refer to our paper **Drawdown Rules of Thumb: Update 2023**, August 2023 for a discussion of the impact on volatility on drawdown.

- Future CPI inflation is assumed to be 2% a year (as the mid-point of the RBNZ's long-term target range of 1% - 3% a year).

- Wage inflation, before any promotional increases as described above, is assume to be at CPI inflation + 1% p.a. (i.e. 3% a year).

Assumptions	• Member starts contributing to KiwiSaver at age 22, with zero initial balance, unless stated otherwise. • No first home withdrawal; no periods of part-time service or career breaks, unless stated otherwise. • Income tax bands and minimum income for ACC levy assumed to increase in line with wage inflation (3% a year). • ESCT bands assumed to increase in line with wage inflation (3% a year). • NZ Super increases annually in line with wage inflation (i.e. CPI + 1% a year). • The age from which NZ Super can be taken is from age 65 unless stated otherwise. • Only looks at KiwiSaver and not any other potential sources of income

Glossary

KiwiSaver is New Zealand's regulated private retirement investment scheme. KiwiSaver started in 2007 and has around 3.3 million members, from a total population of 5.3 million people. Members choose, or are auto-enrolled into, a KiwiSaver account from one of more than 30 providers.

New Zealand Superannuation (**NZ Super**) is New Zealand's public (tier one) near-universal pension.

Typically, people save into a retirement fund during their working life, then supplement NZ Super and other income in retirement, if any, by taking money from that fund. This process of spending down a fund in later life is known as **decumulation, income streaming or drawdown**. The focus in RIIG's work is on drawing down money from a fund each year, not necessarily of the same amount in each drawdown.

"Drawdown" is the process by which amounts are taken each year from an accumulated investment fund (such as KiwiSaver) which remains invested and so continues to benefit from investment growth. The amount taken – the **"income"** each year – will normally exceed the investment return on the fund, with the rest of the "income" coming from the investment fund itself. The investment fund is therefore expected to reduce in size over time.

The term **"retirement"** is used in this paper for the phase of life when most people do significantly less or no paid work and need income from their savings, investments, or other sources. While some individuals may transition from full employment to being fully retired on a specific, pre-planned day, the reality is rarely this straightforward.

By **"retiree"** we mean an individual who is close to or in retirement and thinking about how much income to draw down from their retirement fund. A retiree need not be of any specific age, but we envisage that people start thinking about their drawdown options at any time over age 50 and start drawing down after age 65. For people who work beyond age 65, age 70 may be a typical time to start drawing down.

Longevity is a general term indicating long life. More people are living longer lives than ever before.

Longevity risk is the risk of living longer than was expected in retirement planning[9]**.**

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[6] Based on a comparison of average/median hourly earnings and average/median weekly earnings shown in the NZStats data "Earnings for people in paid employment by region, sex, age groups and ethnic groups". This shows 21/16 hours per week for 15–19-year-olds, 35/39 hours per week for 20–24-year-olds and 39/40 for 25–29-year-olds and then stays at that level until ages 60-64 years, when it starts to fall. https://www.stats.govt.nz/news/working-lives-are-getting-longer/ shows the percentage of people in employment (part time and full time).

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