New Zealand Society of Actuaries (Inc)

Decumulation Options in the New Zealand Market: How Rules of Thumb can help

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New Zealand Society of Actuaries (Inc)

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Definitions of some terms used in this paper

"Decumulation". Typically, people save into a retirement fund during their working life, then seek to supplement New Zealand Superannuation and other income in retirement, if any, by taking money from that fund. The money taken each year can be more than the interest income on the fund as some capital may also be taken. This process of spending down a fund in later life is known as decumulation, income streaming or drawdown. Our focus in this paper is on drawing down a regular income from a fund each year, not necessarily of the same amount each year.

"Retirement savings" or **"fund"**. A retiree will typically have an amount available in KiwiSaver at age 65. However, a retiree may have other "savings" or "assets" or "investments" in one or more other funds or accounts in addition to or instead of KiwiSaver. These funds and accounts can also be called "pots" or "buckets". We will usually refer to a retirement fund or fund. The Rules we cover in this paper could be used on any pot that the retiree considers his or her retirement fund, of whatever structure or underlying investment type, provided money can easily be taken out each year. A retirement fund could consist of separate pots and different Rules could be used on each.

"Retiree". By "retiree" we mean the individual who is thinking of how much income to draw down from his or her retirement fund. The retiree may not actually be fully retired from all work as many New Zealanders work at least part-time in later life. A retiree need not be of any particular age, but we envisage that people start thinking of their drawdown options at any time over age 50, and start drawing down after age 65. The Rules in this paper have been tested for a retiree with drawdown starting at age 65, age 70 or age 75.

Summary

1. Rules of Thumb are used in some savings and pensions markets to give general guidance. Rules of Thumb are simple principles, which are generally reliable in the absence of full advice. They give a broad steer on how to achieve a financial goal.

2. In this paper we make the case for a set of four tested Rules of Thumb to be integrated into the different ways retirees in New Zealand receive information on how to safely take income from their retirement fund. The four Rules of Thumb are:

    *   **6% Rule:** Each year, take 6 per cent of the starting value of your retirement savings.

    *   **Inflated 4% Rule:** Take 4 per cent of the starting value of your retirement savings, then increase that amount each year with inflation.

    *   **Fixed Date Rule:** Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.

    *   **Life Expectancy Rule:** Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.

3. Based on our testing, this set of four Rules of Thumb could give a reliable, useful steer, suitable for a range of personal decumulation priorities. The Rules provide different income profiles, so they offer a way of engaging a range of retirees in understanding what the implications of decumulation decisions are, especially investment and longevity risks.

4. We welcome further testing and review of these Rules.

5. We propose that a regulator-approved set of tested Rules should be available for providers, distributors, regulators, commentators and others who communicate with New Zealanders on decumulation matters.

Introduction

1. This paper is about how New Zealanders can be helped to convert their retirement fund into income using drawdown Rules of Thumb.

2. It builds on our 2015 paper *Income Streaming in Retirement: Options for New Zealand*[1]. In that paper we examined the demand for and supply of products that help retirees to convert their retirement fund – for example in KiwiSaver – into income. We explained the longevity, mortality, credit, inflation and investment risks inherent in such products, noting that longevity risk, the risk of unexpectedly running out of money before death, is especially important in retirement.

3. Our conclusions from the 2015 paper can be summarised as:

   Many New Zealanders face the question of how to turn their savings into income in retirement: There will be over 1 million New Zealanders reaching age 65 over the next 20 years. We estimate that the median KiwiSaver balance of those aged 65 will reach $100,000 in inflation-adjusted terms, in 25 years' time.

   There is no appropriate "standard" or "default" strategy suitable for everyone all of the time: Retirees' work, financial, family and health circumstances are diverse and change through retirement. Income needs vary between retirees and over time, as do risk tolerances. We believe this diversity and uncertainty spell problems with any standard or default strategy for decumulation, so that solutions are best personalised as far as possible.

   Ways to invest and manage assets in retirement already exist and market innovation will lead to more: Suitable ways of investing and managing assets in retirement already exist, for example continuing in KiwiSaver after age 65 and drawing down income as needed. Market innovation will lead to more products, such as the variable annuity product which has been launched since our 2015 paper.

   Lifetime guaranteed annuities other than New Zealand Superannuation are unlikely to be available: The New Zealand market is unlikely to offer reasonably-priced, traditional, fully guaranteed lifetime annuities. It is possible, but not straightforward, for the state to offer such annuities for purchase. New Zealand Superannuation already provides a lifetime annuity.

   The critical question is less about *What products are needed?* and more about *How to provide financial guidelines?* As individual circumstances matter, and no single product is likely to be a silver bullet solution, people will need help to find the right combination of solutions for their circumstances. Rules of Thumb provide one type of such guidance.

4. In this paper, the following chapters cover:

   1. What Rules of Thumb are and why they are of interest

   2. How drawdown Rules of Thumb could help retirees

   3. Drawdown Rules of Thumb for New Zealanders today

   4. How we have tested the Rules of Thumb

   5. Making a success of drawdown Rules of Thumb

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[1] O'Connell et al. (2015)

Chapter 1: What Rules of Thumb are and why they are of interest

1.1   Not everybody wants individual financial advice and not everybody can afford it. Those who get individual financial advice want comfort that it is robust and reliable.

1.2   Rules of Thumb are used in some savings and pensions markets to give general advice to retirees. A working definition of a Rule of Thumb is[2]: *A simple principle, generally reliable in the absence of full advice that provides a broad steer on how to achieve a financial goal.*

1.3   Examples of Rules of Thumb are available on financial websites. The following examples for budgeting or saving for retirement come from other markets and may not be appropriate for the current New Zealand situation:

- Set aside enough money to cover 3 months' worth of bills.

- What percentage of your income should you save into a pension? Half the age you started saving.

- What proportion of my retirement portfolio should I invest in equities, as opposed to bonds? 100 minus your age.

1.4   Looking further into international literature, we can expand on the above definition of a Rule of Thumb to say a good Rule:

- addresses a specific question,

- is easy to understand and follow,

- can be used as a guide or target, and

- offers a better course of action than not following it.

1.5   However a Rule of Thumb:

- is not perfect,

- may not achieve the best possible outcome for everyone, and

- cannot be "set and forget", but needs review over time[3].

1.6   Of particular note is a recommendation, in a recent review of financial advice in the UK by the Financial Conduct Authority and the Treasury, for the development of a set of Rules of Thumb and encouragement for their use by agencies offering guidance to retirees[4]. The UK recommendations are based heavily on the learnings of behavioural economics, the insights from which have also been embraced by the Financial Markets Authority in New Zealand[5].

1.7   Behavioural economics suggests that because people find financial decisions difficult, and can make mistakes, people generally benefit from being "nudged" towards thinking about their financial position and towards considering taking action. Rules of Thumb can provide this nudge and guide people at this point in their lives[6]. This means that for Rules of Thumb to be successful, they must:

- steer the retiree to the relevant knowledge needed for the decision,

- be a reliable steer, that is tested and up to date, and

- be normalised, to take some of the fear out of making a decision.

1.8   The proposed Rules of Thumb can satisfy these criteria. In the last chapter of this paper we consider what it would take to make the use of these Rules of Thumb successful.

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[2] PPI (2015), HM Treasury and Financial Conduct Authority (2016)

[3] PPI (2015)

[4] HM Treasury and Financial Conduct Authority (2016)

[5] FMA (2016)

[6] HM Treasury and Financial Conduct Authority (2016) p 49

1.9   We note that it would be confusing to retirees if they were offered several different Rules of Thumb from different sources and this would result in the Rules not being normalised. It follows that for Rules of Thumb to be successful, a consistent set of relevant, reliable, approved Rule(s) should be integrated into the different ways people seek guidance or receive influencing comment or calls to action.

1.10   Most Rules of Thumb used internationally are for budgeting or for saving for retirement. We believe Rules of Thumb could be useful for drawdown in the decumulation stage because:

- Most retirees have relatively modest savings and often would not choose to purchase financial advice for small funds.

- The decumulation phase is difficult for retirees, so a broad steer would be helpful, whether or not financial advice is also accessed.

- Rules of Thumb fit with the search for simpler ways of giving advice to a broad range of people, including robo-advice and the thrust of proposed changes to the Financial Advisers Act 2008[7].

1.11   Drawdown Rules of Thumb should not be oversimplified. Compared with the savings phase (where it is usually agreed that any saving is better than none), decumulation is harder to generalise and there are more risks involved:

- People have limited resources in later life, especially once they have finished working, so it is very hard to recover from a mistake or bad luck.

- Investment and longevity risks are important in later life, but are not well understood.

- People have different starting points for their retirement and their objectives, preferences and ambitions for retirement vary.

1.12   In this paper, we explore Rules of Thumb suitable for a typical New Zealander approaching or in retirement. These Rules will not be a complete solution; rather we aim for a useful and reliable steer which engages retirees and offers a better course of action than not following it.

1.13   Consistent with this aim, the Rules of Thumb are shown in this paper are not specific recommendations or personal financial advice.

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[7] http://www.mbie.govt.nz/info-services/business/business-law/financial-advisers/review-of-financial-advisers- act-2008

Chapter 2: How drawdown Rules of Thumb could help retirees

2.1   This paper considers what Rules of Thumb might be appropriate today to help a typical New Zealand retiree, approaching retirement or already retired, thinking about taking income from his or her retirement fund[8].

2.2   We assume our typical retiree has:

- lifetime income from New Zealand Superannuation,

- an emergency fund,

- around $100,000 from KiwiSaver, term deposits, PIEs and other savings[9], and

- personal preferences, ambitions, risk appetite and retirement aims.

2.3   We know that over 90 per cent of all people in New Zealand over age 65 have a guaranteed lifetime income from New Zealand Superannuation[10].

2.4   We assume an emergency fund which can be drawn on for unexpected or lumpy costs, providing flexibility rather than regular income. An often-used benchmark is an emergency fund of about three months' expenses.

2.5   In our previous paper, we estimated a median KiwiSaver balance at retirement in the near future would be around $100,000 in today's dollars, so we have taken that as a benchmark amount for invested savings. This may or may not be in KiwiSaver. This is the "retirement fund" which is the focus of this paper.

2.6   Our focus is on how Rules of Thumb could help a typical New Zealander retiree answer the question: *How much income can I draw down from my retirement savings of $100,000 each year, given how long I want my retirement savings to last?* In practice, retirees will have more or less than this $100,000 benchmark. However, our focus is very much on a typical retiree.

2.7   Those with more savings might be interested in considering the Rules of Thumb but may have options for more complicated products, including variable annuities, which are best assessed using personalised financial advice.

2.8   Everyone will have their own set of preferences and ambitions around risk and income. One retiree may prioritise leaving an inheritance; another may want to do so only if some money is left over. One may want to ensure they spend all of their savings even if that means relying on New Zealand Superannuation at a very old age; another may want to ensure supplementary income throughout life. One may prefer to take a higher income at the start of an active retirement; another may want regular level amounts.

2.9   There are a number of ways in which the key question for our retiree could be approached. Any solution will have to balance the risks including:

A.   Invested fund loses value, whether through a drop in market value, fraud or credit loss, so the income taken from the fund in the future has to reduce.

B.   Income does not keep up with inflation.

C.   Income that is irregular or unpredictable because it depends on investment outcomes.

D.   Money runs out before death due to living unexpectedly long or taking too much money out of the fund too early.

E.   Too much money is left at death with not enough income taken during life, so an inheritance is left when the preference was to spend it all.

F.   Income is not enough to cover costs.

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[8] A description of the general approach to planning for income in retirement can be found in Merton (2014)

[9] Whenever we refer to the $100,000 benchmark, we mean the equivalent of $100,000 in today's terms

[10] http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/statistical- report/statistical-report-2008/ superannuation-and-pensions/superannuation.html#clientnumbers

2.10   Our approach to these competing risks is to estimate the likely future income from a retirement fund of $100,000 using a number of potential Rules of Thumb.

- The calculation itself takes as an input the type of invested assets in the fund (Conservative or Balanced KiwiSaver Fund or equivalent) as a way of taking account of the investment-related risks (A). Given the risk-averse preferences typical of the type of investor the Rules of Thumb are designed for, we have not considered more aggressive investment strategies.

- The amount of income from the fund each year is then looked at, for each Rule of Thumb, to see how well it matches the income preferences of the retiree (B and C).

- We also look at the size of the remaining fund at future ages, compared with the chance of surviving until then, and the expected fund at death. This enables a judgement on how well the Rules fit with the retiree's views on risks D and E.

- The risk of income not being enough to cover costs (F) is ignored because we are asking *How much income is able to be safely generated from a given amount of savings?* not *How much income is needed to cover costs?* This approach gives the income available as an output, which the retiree would then have to consider alongside his or her estimate of costs.

2.11   We initially looked at eight potential Rules of Thumb. A first round of analysis enabled us to focus on four potential Rules which fit with different profiles of consumer preferences. We have summarised the results of our latest analysis by describing who each of these four Rules might be suitable for. Retirees can match their own preferences to one or more Rule and understand the impact of using different Rules. The underlying calculation could also be used in a more personalised advice session, trying some "what ifs" in robo-advice or in face-to-face sessions.

Chapter 3: Drawdown Rules of Thumb for New Zealanders today

3.1 A traditional Rule of Thumb for the decumulation phase from the US is to *Spend down 4 per cent of the starting value of your fund each year.* This Rule has been challenged on the basis that interest rates are now lower, and people live longer, compared to when this Rule was first popularised[11].This paper proposes Rules of Thumb suitable for New Zealand retirees, today.

3.2 Our analysis leads us to focus on four decumulation Rules of Thumb, tested for retirees starting their decumulation at age 65, age 70 or age 75, and described here for a fund of $100,000.

6% Rule: Each year, take 6 per cent of the starting value of your retirement savings.

3.2.1 This gives an annual income of $6,000 in nominal terms, which means the income decreases each year in real terms.

3.2.2 The retiree receives the same nominal amount each year – but the length of time they receive it for varies depending on the actual investment returns received.

3.2.3 It is suitable for someone wanting a regular, known amount of income each year, with higher real income at the start of retirement, but there is a reasonably high chance the fund will run out before death.

Inflated 4% Rule: Take 4 per cent of the starting value of your retirement savings, then increase that amount each year with inflation[12].

3.2.4 This gives $4,000 in the first year, and that amount is the same in real terms for future years - so the nominal amount increases.

3.2.5 The retiree receives the same real amount each year (ie inflation adjusted) – but the length it lasts for varies depending on the actual investment returns received.

3.2.6 This is a good option for people who want their income to grow with inflation and are only comfortable with a very low chance of running out of money before they die.

3.2.7 It is a good option for those who want to leave an inheritance.

Fixed Date Rule: Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.

3.2.8 This gives an income level set by the retiree's choice of the end date for using up the fund. For example, it will give $5,000 in the first year if the decision is made to run the fund down over 20 years.

3.2.9 The amount the retiree receives each year varies depending on the actual investment return earned up to that date, but the length of time the retiree receives an income for is fixed.

3.2.10 The annual income is the remaining fund value each year, divided by number of years left to the end date. The annual income should increase in real terms as the investments grow, but may fall.

3.2.11 This is suitable for someone who is comfortable with the income amount being uncertain and varying each year and who is planning to rely on New Zealand Superannuation or other sources of income after a certain date. In this paper we have considered dates up to age 95.

[11] Morningstar Research (1 May 2016)

[12] This would be usually by reference to an index such as the Consumers Price Index (CPI), but any relevant inflation rate could be used.

Life Expectancy Rule: Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.

3.2.12 The retiree calculates his or her income level each year using his or her life expectancy. This can be done by putting his or her year of birth and current age into the Statistics NZ calculator *How long will I live?*[13] For example, a woman with her 70th birthday in 2017 would find a remaining life expectancy of 19.0 years (89.0 less 70), so the income to be taken that year would be $5,263 (100,000 divided by 19.0). Next year, the remaining fund would be divided by the current estimate of remaining life expectancy for a woman of that cohort aged 71.

3.2.13 There is a payment each year while the retiree is alive, but the payment becomes small if the retiree lives longer than expected at the point when they started to draw on their retirement savings and very small if they live significantly longer than average. As life expectancy reduces at older ages, the level of income falls quite rapidly. Annual income will vary because it depends on the investment return achieved and the life expectancy estimate which is recalculated each year.

3.2.14 This Rule is suitable for people keen to aim at using nearly all their money during life with a guarantee of never quite running out.

3.2.15 The calculation has to be managed each year, although an online calculator would not be difficult to develop. The calculation allows a retiree to take different views on the future of life expectancy, by using a more or less optimistic projection from Statistics NZ[14], or by simply adding, say, five or six years to the given life expectancy to reduce the probability of the income being very low in later years.

3.3 Based on our testing, this set of four Rules of Thumb gives a reliable, useful general steer, suitable for a range of personal decumulation circumstances in New Zealand.

3.4 A summary which matches the projected income from each Rule with the potential preferences of the retiree could be used as a steer to help a retiree choose a Rule of Thumb. He or she could use this Rule to determine what income is likely to be available from their size of fund. They may then wish to go round the loop again, looking at charts or data on the income projected each year from each Rule.

3.5 On the next page we describe one way in which a consumer might be taken through this process.

3.6 More detail on the testing of the Rules, and the output of each, is in the next chapter.

3.7 To be clear: in this paper we are making the case for a consistent, reliable, approved set of Rules of Thumb to be made easily available to people requiring help with decumulation in New Zealand. We have proposed a set of four Rules, which now need:

- agreement on the underlying assumptions and review process,

- review and support for or refinement of the analytics, and,

- if adopted, work by multiple stakeholders on the presentation of the Rules, the accompanying text and how they are integrated into other messages.

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[13] http://www.stats.govt.nz/browse_for_stats/health/life_expectancy/how-long-will-I-live.aspx

[14] The example above uses the "medium death rates" scenario from the SNZ calculator (as at March 2017); the "low death rates" scenario would be a conservative alternative

The remainder of this chapter illustrates how Rules of Thumb might be presented in practice:

…Are you interested in keeping your KiwiSaver invested and taking money out regularly to top up your income?

How much income could you get? And what are the risks?

What is the best way to do this in your situation?

To help answer these questions, you might find it useful to consider these Rules of Thumb. In the table below, we explain the pros and cons of these Rules in general and have tried to suggest the type of person each Rule may suit best. However, it's important to consider your own personal situation in order to decide which one, if any, is right for you. You might also want to speak to a financial adviser.

Pros and cons of each Rule of Thumb

Looking at the pros and cons of each Rule, and the description of who each Rule might be suitable for, might help to guide you to a Rule that could suit you:

Rule of Thumb	Most suitable for	Pros	Cons	Inheritance
6% Rule: Each year, take 6 per cent of the starting value of your retirement savings.	People who want more income at the start of their retirement, to "front-load" their spending, and not concerned with inheritance.	Very simple. Known, regular income.	Income will not rise with inflation. Risk of fund running out within lifetime.	Average inheritance low if drawdown commences at age 65; larger if it commences at a later age.
Inflated 4% Rule: Take 4 per cent of the starting value of your retirement savings, then increase that amount each year with inflation.	People worried about running out of money in retirement or who want to leave an inheritance.	Fund likely to last a lifetime. Income will rise with inflation.	Lower income than other options.	Inheritance payment likely and average inheritance amount large in relation to starting value.
Fixed Date Rule: Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.	People comfortable with living on other income (for example New Zealand Superannuation) after the set date. Those wanting to maximise income throughout life, not concerned with inheritance.	Income for a known selected period.	Amount of income varies from year to year. Annual calculation necessary.	Lowest average inheritance amounts. High probability of no inheritance, especially if selected date is age 85 or earlier; average inheritance amounts greater when selected date is later.
Life Expectancy Rule: Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.	Those wanting to maximise income throughout life, not concerned with inheritance.	Efficient use of fund to provide income for whole of life.	Amount of income varies from year to year; low in later years. Annual calculation necessary and relatively more complicated.	Some inheritance normally paid; average inheritance amount moderate.

These Rules have been tested for a general case of someone retired, receiving New Zealand Superannuation, with some savings to call on in an emergency as well as up to around $100,000 in a conservative or balanced investment fund. They have been tested for a retiree with drawdown starting at age 65, age 70 or age 75.

However, it's important to consider your own personal situation. If your circumstances are more complicated than this, or you have a lot more invested (especially in more risky savings), or you are older or younger than this, then you may still be interested in using these Rules, but we recommend that you speak to a financial adviser.

This is what the Rules could mean for you...

The following charts show a likely income pattern if you follow each Rule and they provide a guide to how long you might live so you can see the chances of running out of money before you die.

- *The income shown is just the income from an initial fund of $100,000, not any other income you might have such as from New Zealand Superannuation. It is for a person who starts drawing down from the $100,000 fund at age 65. The figures are based on current investment conditions for a conservative investment profile.*

- *The income shown is adjusted for inflation. This is why the first Rule, which gives a flat income of $6,000 per annum, appears to fall over time – because the $6,000 per annum will buy less over time due to inflation – and why the second Rule, which gives an amount which increases with inflation each year, appears flat. If the income looks level from one year to the next that means it will be a higher number of dollars in future, but have the same spending power as today.*

- *As investment returns in the future are uncertain, the income you will receive is uncertain. The dark income is income which you will almost certainly receive (at least 95% probability of receiving), the medium colour is additional income you will probably receive (at least 50% probability of receiving) and the light colour is further income you might receive (less than 50% probability of receiving).*

- *The green pie-charts show the probability of surviving from age 65 to the age shown, allowing for typical New Zealand mortality experience.*

Rule 1: 6% Rule

Projected annual income and probability of survival
6% Rule, conservative profile, starting age 65, starting fund $100,000
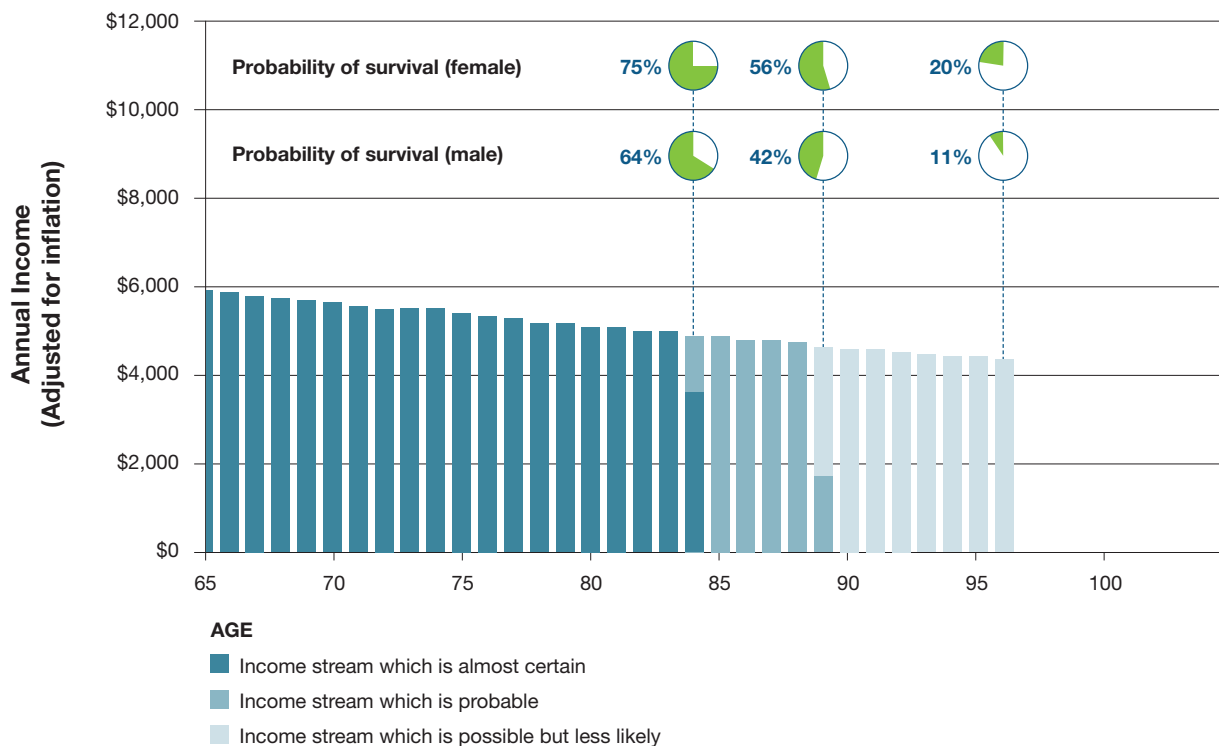
Rule 2: Inflated 4% Rule

Projected annual income and probability of survival
Inflated 4% Rule, conservative profile, starting age 65, starting fund $100,000

Probability of survival (female)   30%   2%

Probability of survival (male)   19%   1%

Annual Income (Adjusted for inflation)

$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0

65   70   75   80   85   90   95   100

AGE

■ Income stream which is almost certain
■ Income stream which is probable
■ Income stream which is possible but less likely

Rule 3: Fixed Date Rule - 20 years

Projected annual income and probability of survival
Fixed Date Rule – 20 years, conservative profile, starting age 65, starting fund $100,000

Probability of survival (female)   75%

Probability of survival (male)   64%

Annual Income (Adjusted for inflation)

$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0

65   70   75   80   85   90   95   100

AGE

■ Income stream which is almost certain
■ Income stream which is probable
■ Income stream which is possible but less likely

Rule 4: Life Expectancy Rule (male)

Projected annual income and probability of survival
Life Expectancy Rule, conservative profile, male, starting age 65, starting fund $100,000

Probability of survival (male)

23%

Annual Income (Adjusted for inflation)

- $12,000
- $10,000
- $8,000
- $6,000
- $4,000
- $2,000
- $0

AGE: 65, 70, 75, 80, 85, 90, 95, 100

- ■ Income stream which is almost certain
- ■ Income stream which is probable
- ■ Income stream which is possible but less likely

Rule 4: Life Expectancy Rule (female)

Projected annual income and probability of survival
Life Expectancy Rule, conservative profile, female, starting age 65, starting fund $100,000

Probability of survival (female)

20%

Annual Income (Adjusted for inflation)

- $12,000
- $10,000
- $8,000
- $6,000
- $4,000
- $2,000
- $0

AGE: 65, 70, 75, 80, 85, 90, 95, 100

- ■ Income stream which is almost certain
- ■ Income stream which is probable
- ■ Income stream which is possible but less likely

Remember:

- *You can take less in any year if you don't need the money, but if you take more, then your savings are more likely to run out and you should recalculate.*

- *You should review your choice every five years or if your circumstances change.*

- *This is general guidance, not financial advice.*

Chapter 4: How we have tested the Rules of Thumb

4.1 In this chapter we consider the robustness of the Rules of Thumb under a variety of economic scenarios, investment profiles (mix of equities and bonds) and individual profiles. The assumptions used are set out in Appendix 1. The scenarios considered are:

Investment profile	Economic assumptions	Inflation pa	Investment return pa Mean, in excess of inflation	Volatility
Conservative	Standard	1.0%	2.5%	3.6%
Conservative	Investment return + 1%	1.0%	3.5%	3.6%
Conservative	Investment return - 1%	1.0%	1.5%	3.6%
Conservative	Inflation + 1%	2.0%	2.5%	3.6%
Balanced	Standard	1.0%	3.8%	10.7%
Balanced	Investment return + 1%	1.0%	4.8%	10.7%
Balanced	Investment return - 1%	1.0%	1.8%	10.7%
Balanced	Inflation + 1%	2.0%	3.8%	10.7%

4.2 For each Rule tested, we have considered starting ages for drawdown of 65, 70 and 75. The gender of the retiree is relevant in the use of the Life Expectancy Rule only, and in testing each Rule for longevity-related risk (running out of income before death).

4.3 The Rules are tested in different ways.

4.3.1 For all of the Rules, we show the income likely to be available each year in the following charts. This dollar amount is shown in real income terms, so a declining profile suggests income falling behind inflation.

4.3.2 For all the Rules we show charts of the size of the fund remaining against the probability of death at each age. This gives a visual guide to whether the fund is likely to run out before death. Appendix 2 gives figures for the average size of fund likely to remain on death. This tests whether the Rule is suitable for those who wish to leave an inheritance or those who prefer to use up all their fund before death.

4.3.3 For the 6% and Inflated 4% Rules, the annual income is fixed by the Rule, but the income can only be taken until the fund runs out. When that happens depends on the investment returns being added to the fund, which we have modelled as a probability function depending on the investment profile. We show the probability of exhausting income (that is, the fund runs out) at five year increments from age 85 to age 100.

4.3.4 For the Fixed Date and Life Expectancy Rules, the point at which the fund runs out is fixed[15], and the income varies according to the investment profile. We have shown this by the income available with a specified probability at five year increments. This tests the suitability of the Rule for those who are concerned about the likely volatility of their income.

4.4 Detailed results are in Appendix 2, and are summarised in the following paragraphs.

6% Rule

4.5 This Rule can be described as follows.

Rule of Thumb	Most suitable for	Pros	Cons	Inheritance
6% Rule: Each year, take 6 per cent of the starting value of your retirement savings.	People who want more income at the start of their retirement, to "front-load" their spending, and not concerned with inheritance	Very simple. Known, regular income.	Income will not rise with inflation. Risk of fund running out within lifetime.	Average inheritance low if drawdown commences at age 65; larger if it commences at a later age.

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[15] For the Life Expectancy Rule the end date changes as the forecast life expectancy changes, and the fund will not entirely run out as there is always the probability of extending life. However, the Life Expectancy Rule can be considered conceptually as a fixed date Rule.

4.6   The income generated by this Rule is shown by the first chart below and the size of the fund and the probability of death are shown by the second chart.
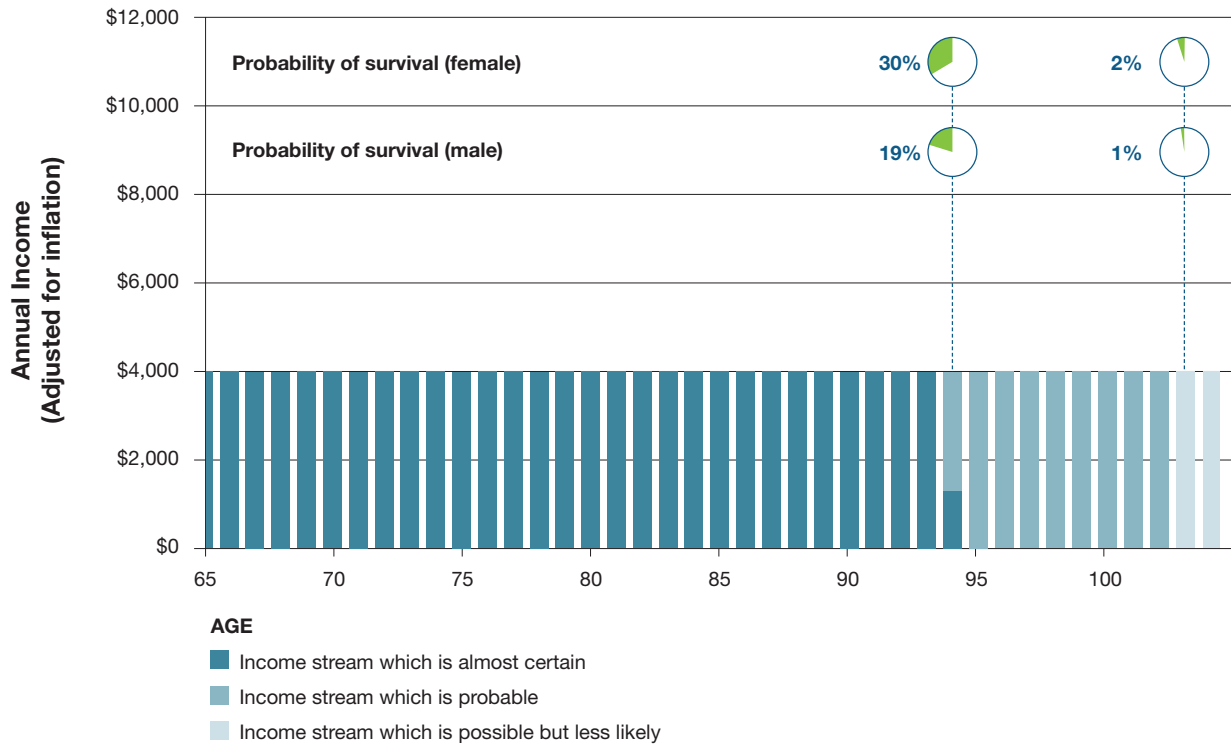
Projected annual income and probability of survival
6% Rule, conservative profile, starting age 65, starting fund $100,000

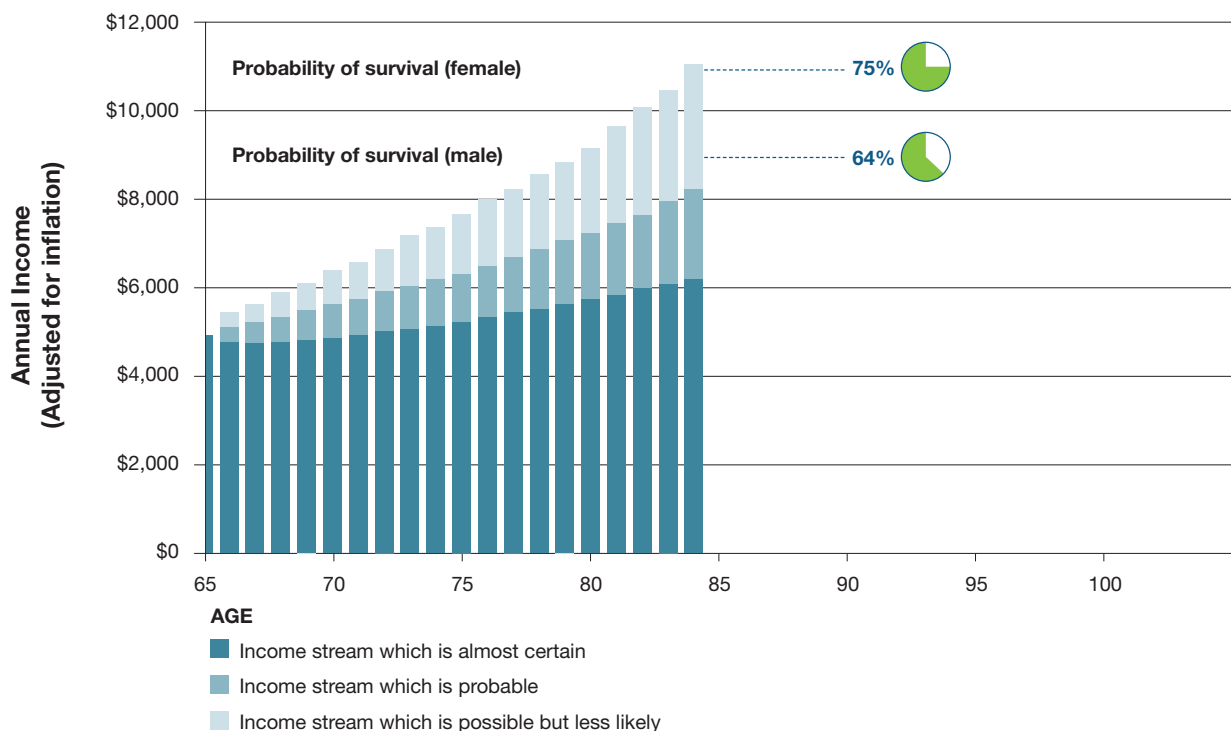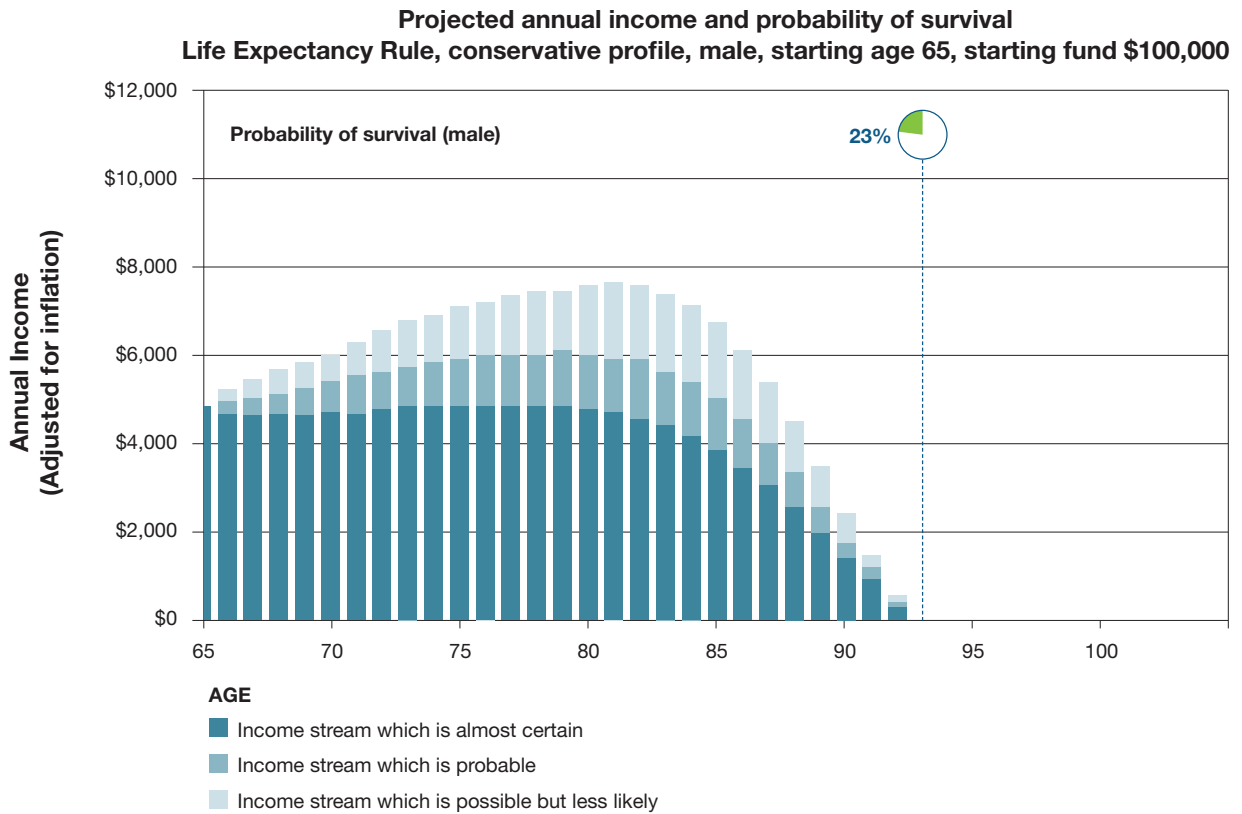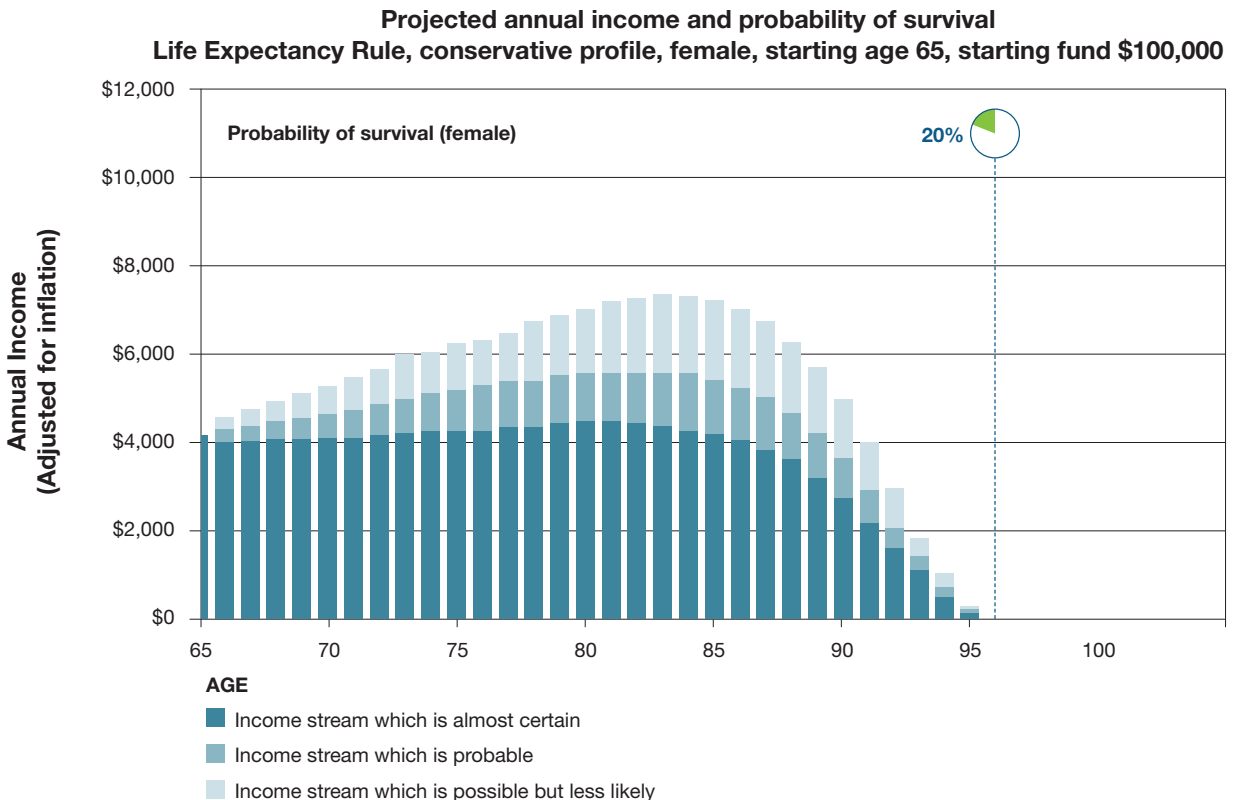**Fund value and probability of death**
6% Rule, conservative profile, starting age 65, starting fund $100,000
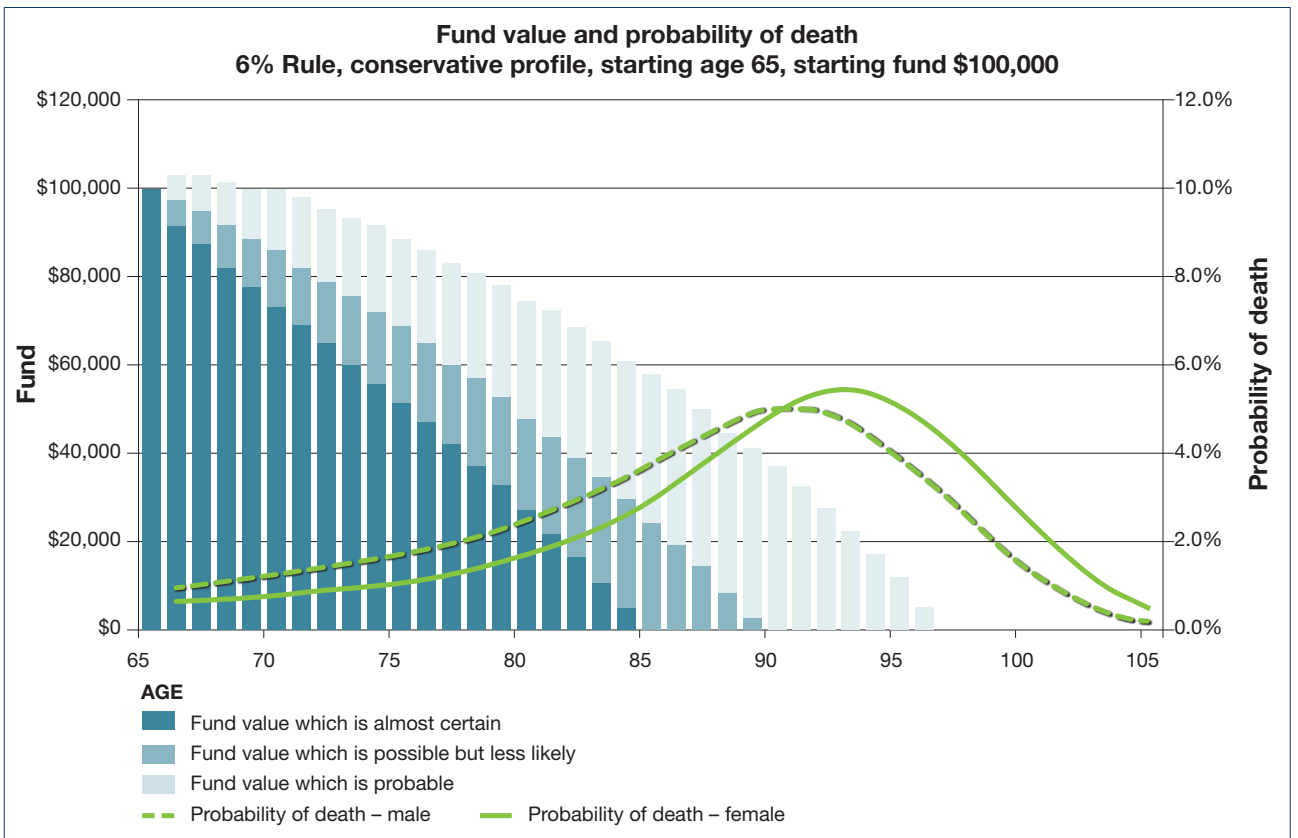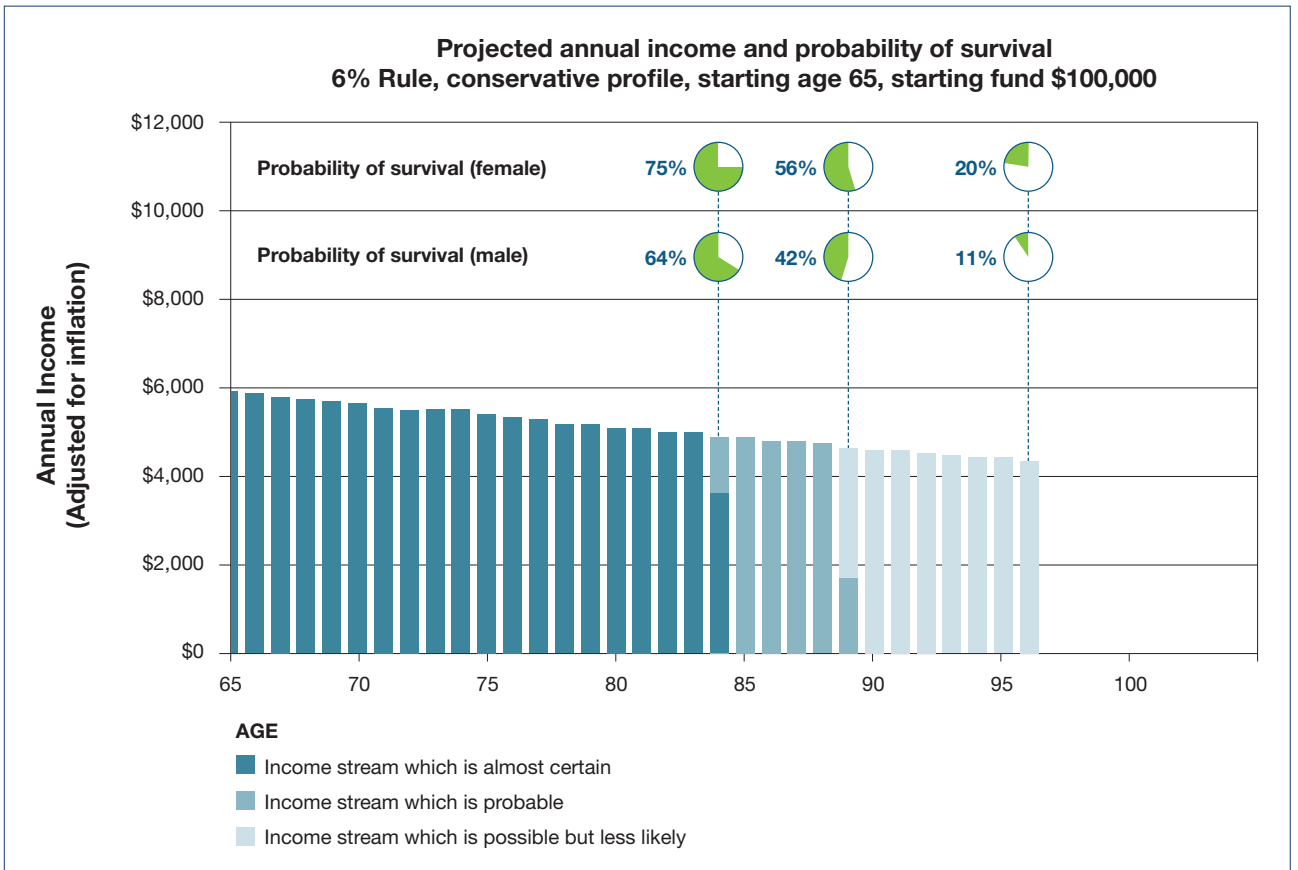
4.7 The probabilities of the income being exhausted by age 85, age 90, age 95 and age 100 under the 6% Rule, are:

Age at start	Investment Profile	Probability of exhausting income				Assumptions
		Age 85	Age 90	Age 95	Age 100	
65	Conservative	6.3%	57.6%	90.9%	97.9%	Standard
65	Conservative	0.8%	16.5%	54.4%	81.1%	Investment return + 1%
65	Conservative	30.1%	90.4%	99.3%	100.0%	Investment return - 1%
65	Conservative	0.8%	16.6%	54.8%	80.9%	Inflation + 1%
65	Balanced	21.6%	41.0%	55.9%	65.0%	Standard
65	Balanced	13.3%	28.8%	40.0%	48.9%	Investment return + 1%
65	Balanced	34.2%	57.6%	70.1%	78.7%	Investment return - 1%
65	Balanced	13.3%	28.8%	40.0%	48.9%	Inflation + 1%
70	Conservative	0.0%	6.3%	57.7%	90.9%	Standard
70	Conservative	0.0%	0.8%	16.6%	54.4%	Investment return + 1%
70	Conservative	0.0%	30.1%	90.4%	99.3%	Investment return - 1%
70	Conservative	0.0%	0.8%	16.6%	54.4%	Inflation + 1%
70	Balanced	4.5%	21.6%	41.0%	55.9%	Standard
70	Balanced	2.4%	13.3%	28.8%	40.0%	Investment return + 1%
70	Balanced	7.8%	34.2%	57.6%	70.1%	Investment return - 1%
70	Balanced	2.4%	13.3%	28.8%	40.0%	Inflation + 1%
75	Conservative	0.0%	0.0%	6.3%	57.7%	Standard
75	Conservative	0.0%	0.0%	0.8%	16.6%	Investment return + 1%
75	Conservative	0.0%	0.0%	30.1%	90.4%	Investment return - 1%
75	Conservative	0.0%	0.0%	0.8%	16.6%	Inflation + 1%
75	Balanced	0.0%	4.5%	21.6%	41.0%	Standard
75	Balanced	0.0%	2.4%	13.3%	28.8%	Investment return + 1%
75	Balanced	0.2%	7.8%	34.2%	57.6%	Investment return - 1%
75	Balanced	0.0%	2.4%	13.3%	28.8%	Inflation + 1%

4.8   The average amounts left as inheritance are:

Average amounts left as inheritance				
Age at start	Investment profile	Male	Female	Assumptions
65	Conservative	23,649	16,512	Standard
65	Conservative	37,351	28,424	Investment return + 1%
65	Conservative	17,471	11,766	Investment return -1%
65	Conservative	37,150	28,257	Inflation + 1%
65	Balanced	33,359	24,500	Standard
65	Balanced	58,949	50,513	Investment return + 1%
65	Balanced	22,555	15,580	Investment return -1%
65	Balanced	58,949	50,513	Inflation + 1%
70	Conservative	37,720	28,581	Standard
70	Conservative	53,277	44,279	Investment return + 1%
70	Conservative	28,733	20,520	Investment return -1%
70	Conservative	53,226	44,277	Inflation + 1%
70	Balanced	50,689	40,178	Standard
70	Balanced	71,630	65,495	Investment return + 1%
70	Balanced	36,173	26,989	Investment return -1%
70	Balanced	71,630	65,495	Inflation + 1%
75	Conservative	54,231	45,213	Standard
75	Conservative	67,391	60,280	Investment return + 1%
75	Conservative	44,185	34,953	Investment return -1%
75	Conservative	67,391	60,280	Inflation + 1%
75	Balanced	65,734	58,214	Standard
75	Balanced	82,695	76,980	Investment return + 1%
75	Balanced	53,261	43,574	Investment return -1%
75	Balanced	82,695	76,980	Inflation + 1%

4.9   These results show that for the conservative investment profile:

4.9.1 Under standard assumptions, there is a high probability (93.7% = 100%-6.3%) that income will last 20 years but only 42.4% probability income can still be paid after 25 years. The probability of having an income after 30 years is only 9.1%.

4.9.2 If investment returns average 1% less than assumed in the standard assumptions, the probability after 20 years reduces to 69.9%, and the probability that income can still be paid after 25 years is only 9.6%.

4.9.3 The average amounts left as inheritance are generally less than $30,000 if the starting age is 65 but increase with later starting ages and are generally over $50,000 if the starting age is 75.

4.10   The effect of moving to a balanced portfolio is mixed. There is a reduced probability of income lasting 20 years but a positive impact on the probability of the income still continuing at the later durations. This indicates the pay-off between risk and income of the different investment profiles. There is a reasonably significant increase in the average amount left as inheritance.

Inflated 4% Rule

4.11   This Rule can be described as follows.

Rule of Thumb	Most suitable for	Pros	Cons	Inheritance
Inflated 4% Rule: Take 4 per cent of the starting value of your retirement savings, then increase that amount each year with inflation.	People worried about running out of money in retirement or who want to leave an inheritance.	Fund likely to last a lifetime. Income will rise with inflation.	Lower income than other options.	Inheritance payment likely and average inheritance amount large in relation to starting value.

4.12   The income generated by this Rule is shown by the first chart below and the size of the fund and the probability of death are shown by the second chart.

Projected annual income and probability of survival
Inflated 4% Rule, conservative profile, starting age 65, starting fund $100,000

Fund value and probability of death
Inflated 4% Rule, conservative profile, starting age 65, starting fund $100,000

AGE

- Fund value which is almost certain
- Fund value which is possible but less likely
- Fund value which is probable
- Probability of death – male
- Probability of death – female
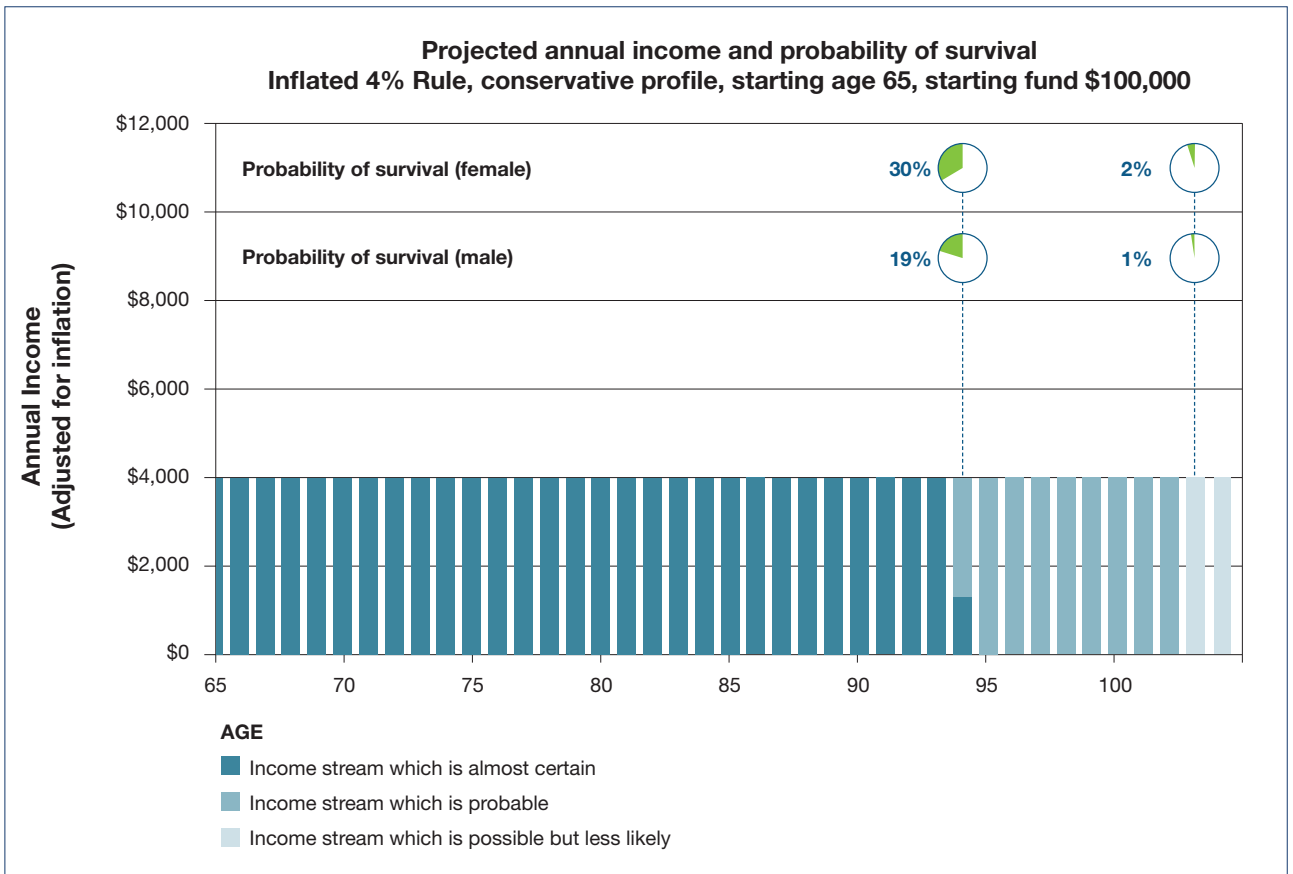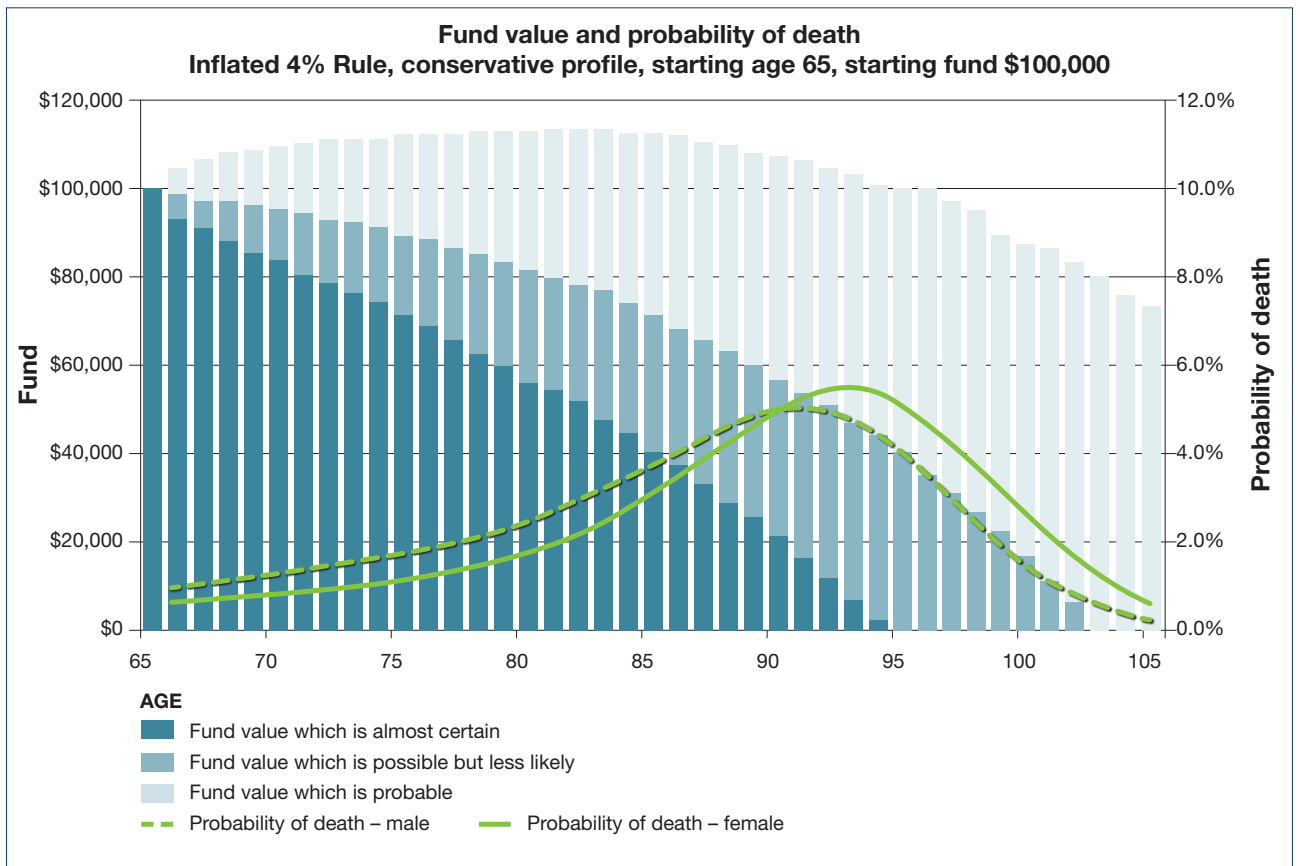
4.13   Income rises with inflation, so the real income as shown in the chart stays flat. However, the change in the retiree's costs over time will not necessarily match inflation, as they may increase faster or fall behind inflation.

4.14   The probabilities of income being exhausted by age 85, age 90, age 95 and age 100 under the Inflated 4% Rule, are:

		Probability of exhausting income				
Age at start	Investment Profile	Age 85	Age 90	Age 95	Age 100	Assumptions
65	Conservative	0.0%	0.2%	6.8%	32.5%	Standard
65	Conservative	0.0%	0.0%	0.3%	3.0%	Investment return + 1%
65	Conservative	0.0%	4.8%	41.8%	82.6%	Investment return - 1%
65	Conservative	0.0%	0.2%	6.4%	31.6%	Inflation + 1%
65	Balanced	3.2%	9.7%	21.5%	30.9%	Standard
65	Balanced	1.3%	5.6%	11.2%	17.1%	Investment return + 1%
65	Balanced	6.0%	20.0%	35.8%	48.8%	Investment return - 1%
65	Balanced	3.0%	9.5%	21.2%	30.8%	Inflation + 1%
70	Conservative	0.0%	0.0%	0.2%	6.8%	Standard
70	Conservative	0.0%	0.0%	0.0%	0.3%	Investment return + 1%
70	Conservative	0.0%	0.0%	4.8%	41.8%	Investment return - 1%
70	Conservative	0.0%	0.0%	0.2%	6.4%	Inflation + 1%
70	Balanced	0.4%	3.2%	9.7%	21.5%	Standard
70	Balanced	0.3%	1.3%	5.6%	11.2%	Investment return + 1%
70	Balanced	0.6%	6.0%	20.0%	35.8%	Investment return - 1%
70	Balanced	0.4%	3.0%	9.5%	21.2%	Inflation + 1%
75	Conservative	0.0%	0.0%	0.0%	0.2%	Standard
75	Conservative	0.0%	0.0%	0.0%	0.0%	Investment return + 1%
75	Conservative	0.0%	0.0%	0.0%	4.8%	Investment return - 1%
75	Conservative	0.0%	0.0%	0.0%	0.2%	Inflation + 1%
75	Balanced	0.0%	0.4%	3.2%	9.7%	Standard
75	Balanced	0.0%	0.3%	1.3%	5.6%	Investment return + 1%
75	Balanced	0.0%	0.6%	6.0%	20.0%	Investment return - 1%
75	Balanced	0.0%	0.4%	3.0%	9.5%	Inflation + 1%

4.15   The average amounts left as inheritance are:

Average amounts left as inheritance				
Age at start	Investment profile	Male	Female	Assumptions
65	Conservative	62,624	54,586	Standard
65	Conservative	95,576	93,425	Investment return + 1%
65	Conservative	40,049	31,068	Investment return -1%
65	Conservative	75,344	67,401	Inflation + 1%
65	Balanced	88,848	84,962	Standard
65	Balanced	133,131	135,410	Investment return + 1%
65	Balanced	57,426	49,037	Investment return -1%
65	Balanced	108,804	107,708	Inflation + 1%
70	Conservative	74,830	68,662	Standard
70	Conservative	98,922	97,423	Investment return + 1%
70	Conservative	55,750	47,493	Investment return -1%
70	Conservative	87,295	81,963	Inflation + 1%
70	Balanced	94,401	92,111	Standard
70	Balanced	124,573	128,144	Investment return + 1%
70	Balanced	70,548	64,299	Investment return -1%
70	Balanced	112,353	111,550	Inflation + 1%
75	Conservative	83,359	79,628	Standard
75	Conservative	100,522	100,144	Investment return + 1%
75	Conservative	69,022	62,612	Investment return -1%
75	Conservative	94,300	91,659	Inflation + 1%
75	Balanced	97,776	96,703	Standard
75	Balanced	117,564	120,973	Investment return + 1%
75	Balanced	81,509	76,034	Investment return -1%
75	Balanced	110,902	112,328	Inflation + 1%

4.16   These results show that, for the conservative investment profile:

4.16.1 There is a high probability (93.2%) that income will last 30 years and a 67.5% probability it will last 35 years (for example, from age 65 to age 100) under standard assumptions.

4.16.2 If investment returns average 1% less than assumed in the standard assumptions, the probability after 30 years reduces to 58.2%, but there is still a high probability (95.2%) of it lasting until age 90.

4.16.3 The probability of running out of income under this Rule is extremely low for a retiree aged 75 or more.

4.16.4 There is likely to be some amount left as inheritance and the average amounts left as inheritance are large.

4.17   For the balanced investment portfolio there is a reduced probability of income lasting, except in the low investment return scenario, when the higher expected return from the balanced portfolio outweighs the impact of the greater volatility. There is a significant increase in the average amounts left as inheritance.

4.18   This indicates that for an under 75 year old, the fund is likely to last a lifetime, even under quite adverse economic conditions. Those worried about running out of money would be better to stay with a conservative portfolio. Retirees aged 75 and older could drawdown an income of more than an inflated 4 per cent of fund each year and still have a low probability of not exhausting the fund before age 100.

Fixed Date Rule

4.19   This Rule can be described as follows.

Rule of Thumb	Most suitable for	Pros	Cons	Inheritance
Fixed Date Rule: Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.	People comfortable with living on other income (for example New Zealand Superannuation) after the set date. Those wanting to maximise income throughout life, not concerned with inheritance.	Income for a known selected period.	Amount of income varies from year to year. Annual calculation necessary.	Lowest average inheritance amounts. High probability of no inheritance, especially if selected date is age 85 or earlier; average inheritance amounts greater when selected date is later.
Run down periods through to age 95 considered.				

4.20   The income generated by this Rule is shown by the first chart below and the size of the fund and the probability of death are shown by the second chart. The Fixed Date in this example is to age 85.

Projected annual income and probability of survival
Fixed Date Rule – 20 years, conservative profile, starting age 65, starting fund $100,000

Probability of survival (female) —————— 75%

Probability of survival (male) —————— 64%

Y-axis: Annual Income (Adjusted for inflation): $0, $2,000, $4,000, $6,000, $8,000, $10,000, $12,000

X-axis: AGE: 65, 70, 75, 80, 85, 90, 95, 100

- ■ Income stream which is almost certain
- ■ Income stream which is probable
- ■ Income stream which is possible but less likely

Fund value and probability of death
Fixed Date Rule – 20 years, conservative profile, starting age 65, starting fund $100,000

Legend:
- Fund value which is almost certain
- Fund value which is possible but less likely
- Fund value which is probable
- Probability of death – male
- Probability of death – female

4.21 The impact of different economic scenarios is shown in the charts below and Appendix 2. For this Rule, the date the income will stop is known but the income between now and then is variable, depending on the period and investment returns. We show this in the charts, by showing the range of income projected in the last year of drawdown. Appendix 2 shows the range of income available at different times at the 5% and 95% probability, that is, with a 5 per cent probability that income exceeds this level and a 95 per cent probability that income exceeds this level.

Income in last year: 10 year draw down, eg age 65 to 75 or 70 to 80 or 75 to 85

Rule of Thumb   **10 year draw down**

Categories (top to bottom):
- Balanced, Inflation + 1%
- Balanced, Investment return - 1%
- Balanced, Investment return + 1%
- Balanced, Standard
- Conservative, Inflation + 1%
- Conservative, Investment return - 1%
- Conservative, Investment return + 1%
- Conservative, Standard

Legend:
- At year 10, 95% probability income exceeds
- At year 10, 5% probability income exceeds

Income in last year: 20 year draw down, eg age 65 to 85 or 70 to 90 or 75 to 95

Rule of Thumb   **20 year draw down**

Categories (top to bottom):
- Balanced, Inflation + 1%
- Balanced, Investment return - 1%
- Balanced, Investment return + 1%
- Balanced, Standard
- Conservative, Inflation + 1%
- Conservative, Investment return - 1%
- Conservative, Investment return + 1%
- Conservative, Standard

Legend:
- At year 20, 95% probability income exceeds
- At year 20, 5% probability income exceeds

4.22 The average amounts left as inheritance are:

Age at start	Investment profile	To age 85		To age 90		Assumptions
		Male	**Female**	**Male**	**Female**	
65	Conservative	19,513	13,069	32,047	22,780	Standard
65	Conservative	21,477	14,403	36,413	26,031	Investment return + 1%
65	Conservative	17,774	11,878	28,252	19,975	Investment return -1%
65	Conservative	21,477	14,403	36,413	26,031	Inflation + 1%
65	Balanced	21,372	14,332	35,974	25,736	Standard
65	Balanced	23,541	15,786	41,031	29,487	Investment return + 1%
65	Balanced	19,432	13,029	31,616	22,486	Investment return -1%
65	Balanced	23,541	15,786	41,031	29,487	Inflation + 1%
70	Conservative	18,996	12,629	32,220	22,902	Standard
70	Conservative	20,341	13,548	35,434	25,339	Investment return + 1%
70	Conservative	17,747	11,786	29,365	20,742	Investment return -1%
70	Conservative	20,336	13,544	35,434	25,339	Inflation + 1%
70	Balanced	20,437	13,562	35,306	25,099	Standard
70	Balanced	21,849	14,546	38,840	27,791	Investment return + 1%
70	Balanced	19,096	12,665	32,100	22,795	Investment return -1%
70	Balanced	21,895	14,567	38,840	27,791	Inflation + 1%
75	Conservative	16,847	11,207	31,588	22,686	Standard
75	Conservative	17,605	11,722	33,790	24,362	Investment return + 1%
75	Conservative	16,125	10,713	29,560	21,142	Investment return -1%
75	Conservative	17,605	11,722	33,790	24,362	Inflation + 1%
75	Balanced	17,792	11,853	33,962	24,401	Standard
75	Balanced	18,596	12,404	36,342	26,145	Investment return + 1%
75	Balanced	17,034	11,327	31,768	22,746	Investment return -1%
75	Balanced	18,596	12,404	36,342	26,145	Inflation + 1%

4.23 The results show that:

4.23.1 Income will always run out on the selected date but the income from year to year varies.

4.23.2 Using the conservative investment profile, the income level is more predictable than for the balanced investment profile. The lower bound (income with 95% probability of exceeding) is typically higher with the conservative investment strategy but there is a possibility of a significantly higher income with the balanced investment strategy. The different investment profiles have limited impact on the average amount left as inheritance.

4.23.3 The different economic assumptions have less impact on the income at different points in time than the investment strategy selected, as the income is adjusted from year to year in the intervening period to adjust for the level of investment returns.

4.23.4 There is a high probably of leaving no inheritance, when the selected date is age 85; the probability of leaving an inheritance increases when the selected date is later.

Life Expectancy Rule

4.24 This Rule can be described as follows.

Rule of Thumb	Most suitable for	Pros	Cons	Inheritance
Life Expectancy Rule: Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.	Those wanting to maximise income throughout life, not concerned with inheritance.	Efficient use of fund to provide income for whole of life.	Amount of income varies from year to year; low in later years. Annual calculation necessary and relatively more complicated.	Some inheritance normally paid; average inheritance amount moderate.

4.25 As the expectation of life differs between males and females, there are separate charts for each. The income generated by this Rule is shown by the first chart below and the size of the fund and the probability of death are shown by the second chart.

Projected annual income and probability of survival
Life Expectancy Rule, conservative profile, male, starting age 65, starting fund $100,000

Probability of survival (male) 23%

Income stream which is almost certain
Income stream which is probable
Income stream which is possible but less likely

Fund value and probability of death
Life Expectancy Rule, conservative profile, male, starting age 65, starting fund $100,000

Legend:
- Fund value which is almost certain
- Fund value which is possible but less likely
- Fund value which is probable
- Probability of death – male

Projected annual income and probability of survival
Life Expectancy Rule, conservative profile, female, starting age 65, starting fund $100,000

Probability of survival (female) **20%**

Legend:
- Income stream which is almost certain
- Income stream which is probable
- Income stream which is possible but less likely

Decumulation Options in the New Zealand Market: How Rules of Thumb can help

Fund value and probability of death
Life Expectancy Rule, conservative profile, female, starting age 65, starting fund $100,000

AGE

- ■ Fund value which is almost certain
- ■ Fund value which is possible but less likely
- ■ Fund value which is probable
- — Probability of death – female

4.26   For this Rule, the annual income is variable, depending on the life expectancy estimate at the time and investment returns each year, as for the Fixed Date Rule. This is shown in the charts above. The variability is not as great as for the Fixed Date Rule as it is mitigated by the longer payment period. The Rule will provide some income for the whole of life. If a retiree lives longer than expected when the retiree started to draw down, the Rule will adjust but the income in the latest years may be very low.

4.27   The average amounts left as inheritance are:

Average amounts left as inheritance				
Age at start	**Investment profile**	**Male**	**Female**	**Assumptions**
65	Conservative	26,303	24,562	Standard
65	Conservative	46,405	46,556	Investment return + 1%
65	Conservative	23,380	21,276	Investment return -1%
65	Conservative	46,405	46,556	Inflation + 1%
65	Balanced	29,409	28,130	Standard
65	Balanced	71,230	74,444	Investment return + 1%
65	Balanced	26,043	24,313	Investment return -1%
65	Balanced	71,230	74,444	Inflation + 1%
70	Conservative	16,230	14,269	Standard
70	Conservative	29,298	27,771	Investment return + 1%
70	Conservative	14,845	12,820	Investment return -1%
70	Conservative	29,298	27,771	Inflation + 1%
70	Balanced	29,164	27,459	Standard
70	Balanced	49,539	50,040	Investment return + 1%
70	Balanced	26,705	24,564	Investment return -1%
70	Balanced	49,539	50,040	Inflation + 1%
75	Conservative	9,935	8,469	Standard
75	Conservative	29,265	27,815	Investment return + 1%
75	Conservative	9,299	7,836	Investment return -1%
75	Conservative	29,265	27,815	Inflation + 1%
75	Balanced	17,771	15,642	Standard
75	Balanced	31,472	30,095	Investment return + 1%
75	Balanced	16,635	14,420	Investment return -1%
75	Balanced	31,472	30,095	Inflation + 1%

4.28   The results show that:

4.28.1 Income will last to the end of life but the income from year to year varies and falls rapidly at older ages.

4.28.2 As with the Fixed Date Rule, the income level is more predictable using the conservative investment profile than with the balanced investment profile. The lower bound (income with 95% probability of exceeding) is typically higher with the conservative investment strategy but there is a possibility of a significantly higher income with the balanced investment strategy.

4.28.3 The different economic assumptions, and the choice of mortality forecast scenario, have less impact on the income at different points in time than the investment strategy selected, as the income is recalculated each year.

4.28.4 There is likely to be some assets remaining at death and so some inheritance payment. However, the average amounts left as inheritance are relatively low, and lower where the Rule is adopted later (ie age 70 or 75).

4.28.5 With this Rule, income is efficiently stretched over the lifetime with no chance of running out (although income may be very low at the oldest ages).

Chapter 5: Making a success of drawdown Rules of Thumb

5.1 As commented in Chapter 1, the success of Rules of Thumb depends on:

- steering the consumer towards the relevant **knowledge** needed for the decision,

- being a **reliable** steer, that is tested and up to date, and

- being **normalised**, to take some of the fear out of making a decision.

5.2 We believe that the Rules of Thumb proposed here can meet the **knowledge** criterion, if the presentation of the Rules illustrates the considerations the retiree should be even if the full detail of the technical aspects are not understood. Reading the summary of who each of the Rules is suitable for prompts consideration of longevity and investment as potential risks, without using those terms. The set of Rules comprises different profiles of potential income, so they offer a way of engaging a range of retirees in understanding what matters in drawdown decisions.

5.3 To meet the **reliable** criterion, the Rules have to be tested and kept up to date. We welcome further testing of the Rules proposed here. We propose a set of Rules be regulator-approved and adopted by a wide range of agencies in New Zealand. The Rules would need to be reviewed regularly so that they reflect up-to-date assumptions on investment returns and longevity.

5.4 To be **normalised**, we suggest that a consistent set of Rules, based on a consistent set of assumptions, be integrated into the different ways people seek guidance or receive influencing comment or calls to action. By themselves, the Rules of Thumb are not financial advice or personalised illustrations, although they might lead to people seeking either. We believe that Rules of Thumb will be most effective if there is a single set of Rules that is referenced widely and consistently. The message will be more powerful if it is reinforced through different channels instead of being confused and dispersed.

5.5 To emphasise again, the presentation of the Rules would be different in different situations. For example:

- An information website might simply describe the Rules, and perhaps show something similar to the "suitable for" table shown above.

- Educational literature might illustrate the income profiles for a couple of examples as an invitation to more personalised advice.

- A robo-advice website might give access to a calculator which generates income profiles according to user-input parameters and underlying assumptions.

5.6 There would need to be confidence in the content of an approved set of Rules. As actuaries, expert in longevity and investment risks, we have proposed and tested an initial set of Rules and we would look for further actuarial and other expert input to setting approved Rules. We envisage the Financial Markets Authority approving, and keeping up to date, a set of Rules for widespread use.

5.7 By virtue of being simple, Rules of Thumb add to the range of other messages and advice or guidance available and do not replace them. The "approved" set would be available to be integrated into messages so their use would be the choice of providers, distributors, regulators, commentators and others who communicate with New Zealanders on decumulation matters.

Appendix 1: Assumptions used in Rules of Thumb calculations

1. The Standard assumptions used are as follows.

Mortality

2. Male/female mortality rates are derived from Statistics NZ cohort life tables (updated September 2014) and 2014 (base) national population projection mortality assumptions, based on medium death rates. We have used death rates for the relevant cohort defined for a start date in 2016 by the start ages specified.

3. In Appendix 2, we show a summary of the probabilities of survival to age 85, 90, 95 & 100 on two scenarios for mortality assumptions. The 50th percentile scenario is the Statistics NZ median scenario, which is the standard scenario of medium death rates used in our paper. The 75th percentile refers to the Statistics NZ 75th percentile of the projected probability distribution and is shown as a reference scenario in which death rates are lower (that is, lives turn out to be longer) than in the standard scenario. We have considered the results under both mortality scenarios, but as it made little difference to the overall findings we have not shown the 75th percentile mortality results.

Future inflation

4. 1% per annum inflation is assumed to calculate the "real" value of future income. The same inflation rate is assumed for the calculation of nominal income each year in the Inflated 4% Rule.

Investment returns

5. We have assumed our typical New Zealander will invest their savings conservatively. We have investigated the impact of assuming investment in a balanced fund as well, to show the impact of taking on more investment risk. Investment is assumed to be in a conservative or balanced investment fund and tax is allowed for at 28%. Investment management fees are not explicitly allowed for. Instead, we have assumed that investment management fees are either small (passive management) or that they are roughly offset by added value (active management). Investment returns are assumed to be normally distributed, which is considered a reasonable assumption given the time horizon modelled and the conservatism and simplicity of our modelling approach. Return assumptions are chosen to be reasonably conservative so that the future investment income will not be unduly optimistic.

6. Nominal returns (mean / standard deviation) assumed are:

   - Cash 2.5% / 0.7%

   - Bonds 2.9% / 2.2%

   - Equities 6.1% / 18%

   Correlations assumed are:

   Bonds - Equities: -0.2   Inflation - Equities: 0

   Equities - Cash: 0   Inflation - Bonds: -0.3

   Cash - Bonds: 0.1   Inflation - Cash: 0.1

7. The resultant assumptions are:

   - "Conservative" investment profile assumes 20% equities, 70% bonds, 10% cash with expected return of 3.5% pa and volatility 3.6%

   - "Balanced" investment profile assumes 60% equities, 40% bonds with expected return of 4.8% pa and volatility 10.7%

8. Tax on income has not been considered as under current KiwiSaver legislation, drawdowns are tax-free.

Appendix 2: Results of testing

Mortality assumptions

Age at start	Gender	Mortality Scenario	Probability still alive at			
			Age 85	Age 90	Age 95	Age 100
65	Male	50th Percentile	60.3%	37.5%	14.7%	2.8%
65	Male	75th Percentile	61.6%	39.2%	16.1%	3.3%
70	Male	50th Percentile	60.5%	36.5%	13.9%	2.6%
70	Male	75th Percentile	61.5%	37.9%	14.9%	2.9%
75	Male	50th Percentile	63.6%	37.1%	13.6%	2.5%
75	Male	75th Percentile	64.3%	38.2%	14.4%	2.7%
65	Female	50th Percentile	72.3%	51.4%	24.8%	6.5%
65	Female	75th Percentile	73.3%	53.0%	26.4%	7.2%
70	Female	50th Percentile	72.4%	50.3%	23.7%	6.0%
70	Female	75th Percentile	73.2%	51.6%	25.0%	6.6%
75	Female	50th Percentile	74.5%	50.5%	23.1%	5.8%
75	Female	75th Percentile	75.1%	51.6%	24.2%	6.2%

Standard investment assumptions

Age at start	Investment Profile	Rule of Thumb		Age 85	Age 90	Age 95	Age 100	Mean assets remaining on death	
								Male	Female
65	Conservative	6% Rule	Probability of exhausting income	6.3%	57.6%	90.9%	97.9%	23,649	16,512
65	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.2%	6.8%	32.5%	62,624	54,586
65	Conservative	to age 85	5% to 95% range of income	(6,295 - 11,031)	-	-	-	19,513	13,069
65	Conservative	to age 90	5% to 95% range of income	(4,943 - 8,422)	(5,557 - 10,181)	-	-	32,047	22,780
65	Conservative	Female ex	5% to 95% range of income	(4,317 - 7,360)	(3,196 - 5,763)	(408 - 797)	(0 - 0)	-	24,562
65	Conservative	Male ex	5% to 95% range of income	(4,094 - 7,021)	(1,876 - 3,443)	(0 - 0)	(0 - 0)	26,303	-
70	Conservative	6% Rule	Probability of exhausting income	0.0%	6.3%	57.7%	90.9%	37,720	28,581
70	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.2%	6.8%	74,830	68,662
70	Conservative	to age 85	5% to 95% range of income	(7,740 - 12,448)	-	-	-	18,996	12,629
70	Conservative	to age 90	5% to 95% range of income	(5,695 - 8,859)	(6,295 - 11,031)	-	-	32,220	22,902
70	Conservative	Female ex	5% to 95% range of income	(5,094 - 7,928)	(3,629 - 6,275)	(366 - 708)	(0 - 0)	-	14,269
70	Conservative	Male ex	5% to 95% range of income	(5,036 - 7,875)	(2,161 - 3,804)	(0 - 0)	(0 - 0)	16,230	-
75	Conservative	6% Rule	Probability of exhausting income	0.0%	0.0%	6.3%	57.7%	54,231	45,213
75	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.0%	0.2%	83,359	79,628
75	Conservative	to age 85	5% to 95% range of income	(10,499 - 15,735)	-	-	-	16,847	11,207
75	Conservative	to age 90	5% to 95% range of income	(6,956 - 9,988)	(7,740 - 12,448)	-	-	31,588	22,686
75	Conservative	Female ex	5% to 95% range of income	(6,386 - 9,169)	(4,645 - 7,336)	(417 - 785)	(0 - 0)	-	8,469
75	Conservative	Male ex	5% to 95% range of income	(6,759 - 9,758)	(3,068 - 4,937)	(0 - 0)	(0 - 0)	9,935	-
65	Balanced	6% Rule	Probability of exhausting income	21.6%	41.0%	55.9%	65.0%	33,359	24,500
65	Balanced	4%+inflation	Probability of exhausting income	3.2%	9.7%	21.5%	30.9%	88,848	84,962
65	Balanced	to age 85	5% to 95% range of income	(4,160 - 22,258)	-	-	-	21,372	14,332
65	Balanced	to age 90	5% to 95% range of income	(3,369 - 16,715)	(3,691 - 22,322)	-	-	35,974	25,736
65	Balanced	Female ex	5% to 95% range of income	(2,939 - 14,616)	(2,153 - 12,539)	(246 - 2,138)	(0 - 0)	-	28,130
65	Balanced	Male ex	5% to 95% range of income	(2,777 - 14,019)	(1,264 - 7,613)	(0 - 0)	(0 - 0)	29,409	-
70	Balanced	6% Rule	Probability of exhausting income	4.5%	21.6%	41.0%	55.9%	50,689	40,178
70	Balanced	4%+inflation	Probability of exhausting income	0.4%	3.2%	9.7%	21.5%	94,401	92,111
70	Balanced	to age 85	5% to 95% range of income	(5,007 - 22,136)	-	-	-	20,437	13,562
70	Balanced	to age 90	5% to 95% range of income	(3,836 - 15,618)	(4,160 - 22,258)	-	-	35,306	25,099
70	Balanced	Female ex	5% to 95% range of income	(3,429 - 13,987)	(2,467 - 12,637)	(225 - 1,626)	(0 - 0)	-	27,459
70	Balanced	Male ex	5% to 95% range of income	(3,367 - 13,984)	(1,420 - 7,774)	(0 - 0)	(0 - 0)	29,164	-
75	Balanced	6% Rule	Probability of exhausting income	0.0%	4.5%	21.6%	41.0%	65,734	58,214
75	Balanced	4%+inflation	Probability of exhausting income	0.0%	0.4%	3.2%	9.7%	97,776	96,703
75	Balanced	to age 85	5% to 95% range of income	(7,401 - 24,819)	-	-	-	17,792	11,853
75	Balanced	to age 90	5% to 95% range of income	(5,170 - 15,176)	(5,007 - 22,136)	-	-	33,962	24,401
75	Balanced	Female ex	5% to 95% range of income	(4,747 - 13,937)	(3,064 - 13,114)	(246 - 1,681)	(0 - 0)	-	15,642
75	Balanced	Male ex	5% to 95% range of income	(4,993 - 14,887)	(1,980 - 8,951)	(0 - 0)	(0 - 0)	17,771	-

Decumulation Options in the New Zealand Market: How Rules of Thumb can help

Investment return + 1%

Age at start	Investment Profile	Rule of Thumb		Age 85	Age 90	Age 95	Age 100	Mean assets remaining on death	
								Male	Female
65	Conservative	6% Rule	Probability of exhausting income	0.8%	16.5%	54.4%	81.1%	37,351	28,424
65	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.3%	3.0%	95,576	93,425
65	Conservative	to age 85	5% to 95% range of income	(7,705 - 13,417)	-	-	-	21,477	14,403
65	Conservative	to age 90	5% to 95% range of income	(5,992 - 10,157)	(7,144 - 13,012)	-	-	36,413	26,031
65	Conservative	Female ex	5% to 95% range of income	(5,234 - 8,878)	(4,091 - 7332)	(562 - 1,087)	(0 - 0)	-	46,556
65	Conservative	Male ex	5% to 95% range of income	(4,974 - 8,484)	(2,416 - 4,405)	(0 - 0)	(0 - 0)	46,405	-
70	Conservative	6% Rule	Probability of exhausting income	0.0%	0.8%	16.6%	54.4%	53,277	44,279
70	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.0%	0.3%	98,922	97,423
70	Conservative	to age 85	5% to 95% range of income	(9,011 - 14,421)	-	-	-	20,341	13,548
70	Conservative	to age 90	5% to 95% range of income	(6,569 - 10,174)	(7,705 - 13,417)	-	-	35,434	25,339
70	Conservative	Female ex	5% to 95% range of income	(5,877 - 9,107)	(4,422 - 7,604)	(481 - 923)	(0 - 0)	-	27,771
70	Conservative	Male ex	5% to 95% range of income	(5,821 - 9,062)	(2,649 - 4,636)	(0 - 0)	(0 - 0)	29,298	-
75	Conservative	6% Rule	Probability of exhausting income	0.0%	0.0%	0.8%	16.6%	67,391	60,280
75	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.0%	0.0%	100,522	100,144
75	Conservative	to age 85	5% to 95% range of income	(11,627 - 17,346)	-	-	-	17,605	11,722
75	Conservative	to age 90	5% to 95% range of income	(7,634 - 10,922)	(9,011 - 14,421)	-	-	33,790	24,362
75	Conservative	Female ex	5% to 95% range of income	(7,008 - 10,026)	(5,384 - 8,462)	(522 - 975)	(0 - 0)	-	27,815
75	Conservative	Male ex	5% to 95% range of income	(7,428 - 10,684)	(3,576 - 5,723)	(0 - 0)	(0 - 0)	29,265	-
65	Balanced	6% Rule	Probability of exhausting income	13.3%	28.8%	40.0%	48.9%	58,949	50,513
65	Balanced	4%+inflation	Probability of exhausting income	1.3%	5.6%	11.2%	17.1%	133,131	135,410
65	Balanced	to age 85	5% to 95% range of income	(5,123 - 26,927)	-	-	-	23,541	15,786
65	Balanced	to age 90	5% to 95% range of income	(4,104 - 20,026)	(4,773 - 28,334)	-	-	41,031	29,487
65	Balanced	Female ex	5% to 95% range of income	(3,581 - 17,514)	(2,771 - 15,845)	(341 - 2,887)	(0 - 0)	-	74,444
65	Balanced	Male ex	5% to 95% range of income	(3,393 - 16,837)	(1,637 - 9,677)	(0 - 0)	(0 - 0)	71,230	-
70	Balanced	6% Rule	Probability of exhausting income	2.4%	13.3%	28.8%	40.0%	71,630	65,495
70	Balanced	4%+inflation	Probability of exhausting income	0.3%	1.3%	5.6%	11.2%	124,573	128,144
70	Balanced	to age 85	5% to 95% range of income	(5,868 - 25,518)	-	-	-	21,849	14,546
70	Balanced	to age 90	5% to 95% range of income	(4,446 - 17,846)	(5,123 - 26,927)	-	-	38,840	27,791
70	Balanced	Female ex	5% to 95% range of income	(3,975 - 15,985)	(3,022 - 15,212)	(299 - 2,103)	(0 - 0)	-	50,040
70	Balanced	Male ex	5% to 95% range of income	(3,911 - 16,007)	(1,751 - 9,408)	(0 - 0)	(0 - 0)	49,539	-
75	Balanced	6% Rule	Probability of exhausting income	0.0%	2.4%	13.3%	28.8%	82,695	76,980
75	Balanced	4%+inflation	Probability of exhausting income	0.0%	0.3%	1.3%	5.6%	117,564	120,973
75	Balanced	to age 85	5% to 95% range of income	(8,231 - 27,227)	-	-	-	18,596	12,404
75	Balanced	to age 90	5% to 95% range of income	(5,694 - 16,533)	(5,868 - 25,518)	-	-	36,342	26,145
75	Balanced	Female ex	5% to 95% range of income	(5,229 - 15,182)	(3,570 - 15,055)	(310 - 2,072)	(0 - 0)	-	30,095
75	Balanced	Male ex	5% to 95% range of income	(5,507 - 16,238)	(2,320 - 10,322)	(0 - 0)	(0 - 0)	31,472	–

Investment return - 1%

Age at start	Investment Profile	Rule of Thumb		Age 85	Age 90	Age 95	Age 100	Mean assets remaining on death	
								Male	Female
65	Conservative	6% Rule	Probability of exhausting income	30.1%	90.4%	99.3%	100.0%	17,471	11,766
65	Conservative	4%+inflation	Probability of exhausting income	0.0%	4.8%	41.8%	82.6%	40,049	31,068
65	Conservative	to age 85	5% to 95% range of income	(5,131 - 9,051)	-	-	-	17,774	11,878
65	Conservative	to age 90	5% to 95% range of income	(4,069 - 4,309)	(6,971 - 7,946)	-	-	28,252	19,975
65	Conservative	Female ex	5% to 95% range of income	(3,554 - 6,090)	(2,490 - 4,519)	(296 - 582)	(0 - 0)	-	21,276
65	Conservative	Male ex	5% to 95% range of income	(3,363 - 5,800)	(1,453 - 2,684)	(0 - 0)	(0 - 0)	23,380	-
70	Conservative	6% Rule	Probability of exhausting income	0.0%	30.1%	90.4%	99.3%	28,733	20,520
70	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	4.8%	41.8%	55,750	47,493
70	Conservative	to age 85	5% to 95% range of income	(6,637 - 10,729)	-	-	-	17,747	11,786
70	Conservative	to age 90	5% to 95% range of income	(4,929 - 7,702)	(5,131 - 9,051)	-	-	29,365	20,742
70	Conservative	Female ex	5% to 95% range of income	(4,409 - 6,892)	(2,972 - 5,169)	(278 - 542)	(0 - 0)	-	12,820
70	Conservative	Male ex	5% to 95% range of income	(4,351 - 6,835)	(1,758 - 3,115)	(0 - 0)	(0 - 0)	14,845	-
75	Conservative	6% Rule	Probability of exhausting income	0.0%	0.0%	30.1%	90.4%	44,185	34,953
75	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.0%	4.8%	69,022	62,612
75	Conservative	to age 85	5% to 95% range of income	(9,468 - 14,258)	-	-	-	16,125	10,713
75	Conservative	to age 90	5% to 95% range of income	(6,332 - 9,126)	(6,637 - 10,729)	-	-	29,560	21,142
75	Conservative	Female ex	5% to 95% range of income	(5,813 - 8,378)	(4,002 - 6,350)	(332 - 631)	(0 - 0)	-	7,836
75	Conservative	Male ex	5% to 95% range of income	(6,144 - 8,905)	(2,628 - 4,252)	(0 - 0)	(0 - 0)	9,299	-
65	Balanced	6% Rule	Probability of exhausting income	34.2%	57.6%	70.1%	78.7%	22,555	15,580
65	Balanced	4%+inflation	Probability of exhausting income	6.0%	20.0%	35.8%	48.8%	57,426	49,037
65	Balanced	to age 85	5% to 95% range of income	(3,369 - 18,363)	-	-	-	19,432	13,029
65	Balanced	to age 90	5% to 95% range of income	(2,759 - 13,926)	(2,846 - 17,544)	-	-	31,616	22,486
65	Balanced	Female ex	5% to 95% range of income	(2,407 - 12,176)	(1,669 - 9,900)	(177 - 1578)	(0 - 0)	-	24,313
65	Balanced	Male ex	5% to 95% range of income	(2,269 - 11,649)	(973 - 5,975)	(0 - 0)	(0 - 0)	26,043	-
70	Balanced	6% Rule	Probability of exhausting income	7.8%	34.2%	57.6%	70.1%	36,173	26,989
70	Balanced	4%+inflation	Probability of exhausting income	0.6%	6.0%	20.0%	35.8%	70,548	64,299
70	Balanced	to age 85	5% to 95% range of income	(4,269 - 19,173)	-	-	-	19,096	12,665
70	Balanced	to age 90	5% to 95% range of income	(3,305 - 13,650)	(3,369 - 18,363)	-	-	32,100	22,795
70	Balanced	Female ex	5% to 95% range of income	(2,954 - 12,223)	(2,009 - 10,479)	(169 - 1253)	(0 - 0)	-	24,564
70	Balanced	Male ex	5% to 95% range of income	(2,895 - 12,201)	(1,149 - 6,411)	(0 - 0)	(0 - 0)	26,705	-
75	Balanced	6% Rule	Probability of exhausting income	0.2%	7.8%	34.2%	57.6%	53,261	43,574
75	Balanced	4%+inflation	Probability of exhausting income	0.0%	0.6%	6.0%	20.0%	81,509	76,034
75	Balanced	to age 85	5% to 95% range of income	(6,646 - 22,595)	-	-	-	17,034	11,327
75	Balanced	to age 90	5% to 95% range of income	(4,689 - 13,919)	(4,269 - 19,173)	-	-	31,768	22,746
75	Balanced	Female ex	5% to 95% range of income	(4,306 - 12,783)	(2,626 - 11,410)	(194 - 1,359)	(0 - 0)	-	14,420
75	Balanced	Male ex	5% to 95% range of income	(4,521 - 13,638)	(1,686 - 7,751)	(0 - 0)	(0 - 0)	16,635	-

Inflation + 1%

Age at start	Investment Profile	Rule of Thumb		Age 85	Age 90	Age 95	Age 100	Mean assets remaining on death	
								Male	Female
65	Conservative	6% Rule	Probability of exhausting income	0.8%	16.6%	54.8%	80.9%	37,150	28,257
65	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.2%	6.4%	31.6%	75,344	67,401
65	Conservative	to age 85	5% to 95% range of income	(6,390 - 11,127)	-	-	-	21,477	14,403
65	Conservative	to age 90	5% to 95% range of income	(4,964 - 5,635)	(8,423 - 10,272)	-	-	36,413	26,031
65	Conservative	Female ex	5% to 95% range of income	(5,234 - 8,878)	(4,091 - 7,332)	(562 - 1087)	(0 - 0)	-	46,556
65	Conservative	Male ex	5% to 95% range of income	(4,974 - 8,484)	(2,416 - 4,405)	(0 - 0)	(0 - 0)	46,405	-
70	Conservative	6% Rule	Probability of exhausting income	0.0%	0.8%	16.6%	54.4%	53,226	44,277
70	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.2%	6.4%	87,295	81,963
70	Conservative	to age 85	5% to 95% range of income	(7,850 - 12,560)	-	-	-	20,336	13,544
70	Conservative	to age 90	5% to 95% range of income	(5,723 - 8,863)	(6,390 - 11,127)	-	-	35,434	25,339
70	Conservative	Female ex	5% to 95% range of income	(5,877 - 9,107)	(4,422 - 7,604)	(481 - 923)	(0 - 0)	-	27,771
70	Conservative	Male ex	5% to 95% range of income	(5,821 - 9,062)	(2,649 - 4,636)	(0 - 0)	(0 - 0)	29,298	-
75	Conservative	6% Rule	Probability of exhausting income	0.0%	0.0%	0.8%	16.6%	67,391	60,280
75	Conservative	4%+inflation	Probability of exhausting income	0.0%	0.0%	0.0%	0.2%	94,300	91,659
75	Conservative	to age 85	5% to 95% range of income	(10,641 - 15,875)	-	-	-	17,605	11,722
75	Conservative	to age 90	5% to 95% range of income	(6,986 - 9,995)	(7,850 - 12,563)	-	-	33,790	24,362
75	Conservative	Female ex	5% to 95% range of income	(7,008 - 10,026)	(5,384 - 8,462)	(522 - 975)	(0 - 0)	-	27,815
75	Conservative	Male ex	5% to 95% range of income	(7,428 - 10,684)	(3,576 - 5,723)	(0 - 0)	(0 - 0)	29,265	-
65	Balanced	6% Rule	Probability of exhausting income	13.3%	28.8%	40.0%	48.9%	58,949	50,513
65	Balanced	4%+inflation	Probability of exhausting income	3.0%	9.5%	21.2%	30.8%	108,804	107,708
65	Balanced	to age 85	5% to 95% range of income	(4,248 - 22,330)	-	-	-	23,541	15,786
65	Balanced	to age 90	5% to 95% range of income	(3,403 - 16,608)	(3,768 - 22,367)	-	-	41,031	29,487
65	Balanced	Female ex	5% to 95% range of income	(3,581 - 17,514)	(2,771 - 15,845)	(341 - 2,887)	(0 - 0)	-	74,444
65	Balanced	Male ex	5% to 95% range of income	(3,393 - 16,837)	(1,637 - 9,677)	(0 - 0)	(0 - 0)	71,230	-
70	Balanced	6% Rule	Probability of exhausting income	2.4%	13.3%	28.8%	40.0%	71,630	65,495
70	Balanced	4%+inflation	Probability of exhausting income	0.4%	3.0%	9.5%	21.2%	112,353	111,550
70	Balanced	to age 85	5% to 95% range of income	(5,112 - 22,230)	-	-	-	21,895	14,567
70	Balanced	to age 90	5% to 95% range of income	(3,873 - 15,547)	(4,248 - 22,330)	-	-	38,840	27,791
70	Balanced	Female ex	5% to 95% range of income	(3,975 - 15,985)	(3,022 - 15,212)	(299 - 2,103)	(0 - 0)	-	50,040
70	Balanced	Male ex	5% to 95% range of income	(3,911 - 16,007)	(1,751 - 9,408)	(0 - 0)	(0 - 0)	49,539	-
75	Balanced	6% Rule	Probability of exhausting income	0.0%	2.4%	13.3%	28.8%	82,695	76,980
75	Balanced	4%+inflation	Probability of exhausting income	0.0%	0.4%	3.0%	9.5%	110,902	112,328
75	Balanced	to age 85	5% to 95% range of income	(7,533 - 24,917)	-	-	-	18,596	12,404
75	Balanced	to age 90	5% to 95% range of income	(5,211 - 15,130)	(5,112 - 22,230)	-	-	36,342	26,145
75	Balanced	Female ex	5% to 95% range of income	(5,229 - 15,182)	(3,570 - 15,055)	(310 - 2,072)	(0 - 0)	-	30,095
75	Balanced	Male ex	5% to 95% range of income	(5,507 - 16,238)	(2,320 - 10,322)	(0 - 0)	(0 - 0)	31,472	-

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