New Zealand Society of Actuaries (Inc)

How to make drawdown a success

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

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Purpose

A lot of attention has always been given to the "accumulation" phase of saving in KiwiSaver. Recently, more thought is being given by regulators, policy makers, KiwiSaver providers and savers on "decumulation" or how to take money out of a fund in retirement.

This discussion paper outlines recent work by the Retirement Income Interest Group (RIIG) of the New Zealand Society of Actuaries on how to decumulate. RIIG has been working on decumulation since 2015. We have developed a set of Rules of Thumb to help savers understand their choices on how to draw down their KiwiSaver or other savings.

"Drawdown" is the process by which amounts are taken each year from an accumulated capital 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 fund capital itself. The fund is therefore expected to reduce in size over the years.

The key questions are how much to take out, how fast the fund runs down and when it runs out.

We agree with the approach of the National Strategy for Financial Capability[1] that agencies should **work together to provide consistent content – information and guidance to help people - that demystifies drawdown**.

This paper is a contribution towards designing that content. It gives a framework for how to think about drawdown and what information people should find helpful. It also considers what policy settings are important to make drawdown a success. The paper 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.

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This paper represents the collective personal views of the members of RIIG and does not necessarily reflect the positions of our employers or other members of the New Zealand Society of Actuaries. Any errors are our own.

This paper describes a general approach and should not be taken as financial advice or as a recommendation for how any individual should manage their money. RIIG encourages individuals to consider taking professional financial advice from an accredited adviser before taking any financial decisions relating to their retirement savings.

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Summary

1. **Drawdown today.** The problem of how to draw down from KiwiSaver or other retirement savings is a new one for many retirees in New Zealand. It is a difficult problem to solve as it involves risks and uncertainties. Other countries are finding their way, but there is no obvious best example available. RIIG believes more guidance to help people think about drawdown is needed. This paper sets out a framework for such guidance, referring to our previous work on income streaming in retirement, Rules of Thumb, policy principles and longevity.

2. **How to think about drawing down**. The framework identifies two "buckets": one for emergency spending and one for drawdown. RIIG's Rules of Thumb are applied to the drawdown bucket, usually a KiwiSaver fund, with the key being guiding retirees to think through options for how they might want to use income throughout their remaining lifespan.

   We recommend people consider the Rules not as forecasts, but as a way of considering the pros and cons of which Rule might work for them. The issue is not *How much income should I commit to take for the next 25 years or so?* but rather, *How much income am I comfortable taking for the next year or two until I review?* We recommend people test the implications of a range of possible lifespans, as longevity has an element of chance. Course corrections can and should be made if there are changes in individual circumstances, forecasts of future investment returns or longevity expectations.

3. **How to think about what income is needed.** Ideally, retirees will at least have an idea of short-term income needs when starting the drawdown process. Being certain about what income might be needed twenty or thirty years after retiring is not feasible, but retirees should find that thinking through possibilities, with advice if required, will help to clarify what income they should look for from drawdown and to make decisions when they review their drawdown experience every year or so.

4. **Policies to make drawdown a success.** We believe that to make drawdown a success for those retirees with some KiwiSaver or other funds, then, firstly, New Zealand Superannuation should be retained as a strong, and stand-alone, foundation. Secondly, we strongly support the aims of the National Strategy for Financial Capability, in providing content – information and guidance – that is consistent across agencies, to avoid complexity and confusion. We offer our work in this paper, and the Rules of Thumb and presentations of key longevity data in earlier papers, as starting points for providing a consistent framework for how agencies can communicate guidance.

1. Drawdown today

Drawdown: A new problem for many

- More New Zealanders are reaching the retirement stage of life with a KiwiSaver fund. This trend is due to KiwiSaver being introduced in 2007.

- A KiwiSaver account generates a capital sum available from age 65. It is necessary for retirees to decide how to use this capital. **To draw down the capital, savers must make choices and take positive action**.

- **The necessary choices are not easy, even with good financial capability**. Most people do not have experience of drawing down from a fund, taking some capital as well as interest income. People tend to underestimate how long they might live, do not have a clear view of how much income they might need in future, not have the time or inclination to think through options, or they allow a risk-averse nature to limit their options.

- **The available guidance in annual KiwiSaver statements is limited** to showing the effect of running down KiwiSaver funds by drawing regular amounts until age 90, based on prescribed assumptions for investment returns[2]. This does not allow for leaving some money for bequests, or a desire to make income last for longer or to take more sooner, or allow for the uncertainty of future inflation, or allow for unexpected investment returns.

A difficult problem

- **Mistakes or regrets over drawdown decisions matter.** Once in retirement, retirees have limited ability to increase their savings. In hindsight, people may wish they had drawn down less, or more.

- **Retirement can be long for many retirees**. Over half of today's 65-year-olds can expect another twenty years of life at least and over one in four can expect to live beyond age 90[3]. During this time, people can experience many changes in health, financial or life circumstances which may change how much income they need or want to take from their KiwiSaver.

- **There is no one-size-fits-all drawdown plan** as retirees' retirement experiences are diverse. Financial requirements in retirement critically depend on home ownership, health, work or leisure activity and family situation. Nearly all retirees receive New Zealand Superannuation, but that may be the only generalisation possible.

A risky problem

- **Experiences in retirement will be different from expected or planned**, which means there are risks in a 'set-and-forget' drawdown plan. For example: unexpected health issues or the need to care for dependents may lead to extra costs and a desire to draw down quicker.

- **Living longer than expected (longevity risk) is a real possibility**[4]. Without understanding how long they might live, retirees may regret in hindsight drawing down too much too early.

- During a long drawdown period, **cost inflation** may become significant, and investment returns may not keep up.

- **Investment risk is critical**: the KiwiSaver fund may not achieve the expected return during the drawdown period, so that the expected drawdown income must be cut, or the fund runs out sooner than expected. Risk aversion may lead to the fund being invested for low risk/low returns which then restricts the level of income available.

- **Sequencing risk** arises when there are poor investment returns at or near the start of the drawdown period, which has a more significant impact on the level of income available than poor returns later.

- **Credit risk** exists where the party responsible for providing the solution (e.g. life assurance company, fund manager, bond issuer) becomes insolvent and defaults on paying out the income. Regulation can help to mitigate this.

No country has 'solved' the drawdown problem

- Most countries which have focused on policies to grow private pensions over the last couple of decades are now facing questions on how to manage the drawdown phase. No solution emerges as best – they are either untested or operate in a different environment to New Zealand.

- In Australia, a recent report by Treasury suggested that savers are not drawing down as much income as they could safely do[5]. A proposal is being legislated to make trustees of retirement savings funds responsible for helping their members to maximise retirement income and manage risks while ensuring flexible access to savings[6]. New products are under development, but it is too soon to evaluate them.

- In the UK, a recent liberation of rules has led to managed drawdown being the most popular decumulation approach[7], though there is no standard drawdown method.

- The OECD has recently updated its guidelines for the design of private pensions[8]. The recommendations move away from a single product solution (an annuity) to encourage different solutions for varying customer needs and levels of risk protection.

This paper focuses on what people can do with their personal funds

- Most current international work focuses on products an individual retiree would use to transform their *personal* savings into retirement income. New *collective* solutions are also available in some countries. These seek ways of sharing mortality and/or investment risks in the drawdown phase, as distinct from annuities where an insurance company will guarantee individuals against those risks for a price.

- One example is Collective Defined Contribution (CDC) schemes[9]. These are pension funds where employer and employees contribute to a pool from which retirement incomes are drawn. The risk that the pool is not sufficient is borne collectively by the employees whose income each year after retirement is not guaranteed and will vary depending on the experience of the pool and may reduce in some years. The employer has fixed costs and carries no ongoing risk.

- Discussed as a potential idea, but tainted by a poor historical record, are tontine schemes. Tontine members invest in a scheme and are given income each year, the amount of which will change over time. The shares of deceased tontine members are divided among surviving members. Without a constant stream of new entrants, there will be a last remaining member who would take all that is left.

- This paper only considers individual, not collective, solutions for New Zealand. Individual solutions could be developed more readily than collective solutions, which tend to be complex and are often perceived as not transparent.

More drawdown guidance is needed

- Our 2015 paper[10] concluded *The critical question is less about "What products need to be made available?" but more "How can an individual put together an appropriate mix of solutions?" Practical and relevant financial guidance will become ever more critical.*

- In 2019 we made a submission[11] to the Retirement Commissioner that *there should be more information available to guide people through the options available in later life to decumulate savings, …* including *lifespan prospects, the costs of end-of-life care that might require personal funding, decumulation options and possible KiwiSaver drawdown strategies and consequences.*

- The Retirement Commissioner's Expert Advisory Group (EAG) has concluded that *there is an opportunity to include decumulation in the work of* [Te Ara Ahunga Ora Retirement Commission][12] *and the National Strategy for Financial Capability*[13].

- **This paper sets out a framework for how to think about drawdown, referring to our previous work on Rules of Thumb, which we hope can provide a foundation for such financial capability work**. As discussed later in the paper, consistency in information given to customers is to be encouraged for drawdown to be a success.

2. How to think about drawing down

The "two-buckets" framework

- It can help to think of two "buckets":
  1. An **emergency bucket** reserved for spending needs which are not usually met from a regular budget such as medical bills, eyesight needs and hearing aids, home or car maintenance and repairs; and
  2. A **longer-term drawdown bucket** which supplies the cash for regular budgeted spending.

- **The emergency bucket should be invested in low risk**, readily accessible "income assets", such as a high interest savings account or short-term (say, up to a year) term deposits to ensure the full dollar value of the bucket is available when needed.

- **The drawdown bucket is invested for long-term returns at medium risk**. It will hold "growth assets" such as equities which have more risk of uncertain investment returns than income assets. For example, the drawdown bucket could be a Conservative fund (20% growth/80% income assets) or a Balanced fund (60% growth assets/40% income).

- **In this paper, we assume this two-bucket framework**.

- An alternative approach is set out by Don Ezra, a long-time retirement income specialist[14]. The drawdown bucket is split further into two. The main sub-bucket is invested 100 percent in growth assets. The second sub-bucket holds sufficient income assets such as bonds to cover drawdown amounts when investment markets are recovering after a market fall. Because the Ezra approach requires some critical decisions around investment strategy and the size of sub-buckets, we consider it possibly suited for savers with larger amounts of capital who are taking financial advice.

Plan drawdown: 1. What buckets?

- The first step in planning drawdown is to work out the size of funds available from all savings and investments and to determine how much to allow to the emergency bucket and the drawdown bucket. Any fund such as a KiwiSaver fund or a portfolio investment entity (PIE) fund which can be drawn down could be used for a drawdown bucket. A bucket could be a combination of funds. Many people will use their KiwiSaver fund as their drawdown bucket.

- **KiwiSaver serves as an off-the-shelf retirement income source supplying cost-effective investment options to individuals**. KiwiSavers have the option of leaving their funds invested after age 65, so age 65 need not be a cliff-edge for decision making. Any time after age 65, total or partial tax-free withdrawals can be made, or a managed income can be set up to draw down from savings regularly, usually fortnightly, monthly or quarterly. Minimum withdrawal amounts may apply.

2. What drawdown plan?

- The second step is to decide how much to draw down from the drawdown bucket, to create income. RIIG has published a set of Rules of Thumb that provide a starting point for this decision[15]. If a retiree has more than one drawdown bucket, a different Rule could be used for each.

- Our previous work gave guidance for choosing which Rule of Thumb may suit. For, example some people may want a simple level income; others may be concerned to match income with inflation; some may want to maximise income in early retirement; while others may want to aim for making their income last until they die.

- Our earlier work illustrated the different income profiles possible in future years from age 65 until the bucket runs out, using four Rules of Thumb on a Conservative or Balanced KiwiSaver fund as the drawdown bucket.

- **We recommend people consider the Rules not as forecasts, but as a way of considering the pros and cons of which Rule might work for them. The issue is not *How much income should I commit to take for the next 25 years or so?* but rather, *How much income am I comfortable taking for the next year or two until I review?***

- Our modelling examples can be used to consider the effect of applying different Rules of Thumb and are intended as a broad steer, to help people think through scenarios of how the Rules might work for them. For example, *Would I rather have less income for longer? When might the fund run out if I take more income now?* Anyone not confident to decide in this way should seek further guidance from a financial adviser.

3. How long might I live?

- The income profiles for each Rule of Thumb illustrated in our earlier work showed the chances of running out of money before the end of life under each Rule of Thumb. This will be the key issue for those concerned about longevity risk.

- As people think through scenarios of how the Rules might work for them, they will need to consider how long they can expect to live. **We recommend people test the implications of a range of possible lifespans, as longevity has an element of chance.**

- **Our recent work on longevity in New Zealand[16] suggested that people currently aged 45 years or over should test their drawdown plan against the likelihood that they live until 90 to 95 years old**. Younger people, if they are planning far in advance, should consider a scenario of living to age 100. An analysis of updated longevity data confirmed these planning numbers[17].

- The population average lifespan (usually called life expectancy) is not the only or necessarily the best indicator of how long an individual might live. Some people will live longer. Many factors influence lifespan, including inherited health, a good start in life and a healthy lifestyle and there is also an element of chance.

Review drawdown plan regularly – not 'set and forget'

- Every year or so, the drawdown plan should be reviewed to test whether or not the Rule of Thumb being used is working as expected. In fact, three of the four Rules require an annual reset. **Course corrections can and should be made if there are changes in individual circumstances, forecasts of future investment returns or longevity expectations.**

- Reasons for changing the level of income drawdown might include a change in the long-term outlook for investment returns or a change in preferences, for example: a need or desire to take more income in the short term; realising that not so much regular income is needed and the wish to save more for later stages of retirement; or, a desire to leave more as bequest.

- Population average lifespans are expected to keep increasing, and as someone ages their own likely lifespan gets longer. The latest data on average lifespans at each age can be checked at StatsNZ's calculator[18], but we recommend continuing to think through the implications of scenarios of living longer than the expected average.

- Some retirees may be comfortable with reviewing their drawdown plan themselves every year; others may prefer to see a financial advisor at every review or less frequently.

3. How to think about what income is needed

Identify short-term income needs

- As the previous section suggests, it is not necessary to work out exactly how much to draw down in every future year. **Ideally, retirees will at least have an idea of short-term income needs when starting the drawdown process, then monitor how much they spend and use that information when reviewing their drawdown each year or two.**

- As a broad guideline, the New Zealand Retirement Expenditure Guidelines 2021 found that weekly expenditure levels for a one-person household in metro areas were $726 on a "no frills" lifestyle or $1,029 for a lifestyle allowing greater choices, and $865 or $1,470 for a two-person household. For provincial areas those figures were $605 or $1,116 (one-person) and $747 or $1,176 (two-person)[19].

- Anyone working out how much to drawdown from KiwiSaver can use these guidelines as a starting point. However, the guidelines are estimated from the average of retiree households at specific income levels. Given the diversity of retirement experiences, the guidelines will not be a good estimate of actual income needs for everyone. For example, a renter may have different income needs than a couple who have paid off the mortgage on their home. An active newly-retired couple may take a different view on essential expenditure than an older single retiree.

- Retirees will need to understand what their own budget is. The Sorted Budgeting tool can help to do this.

Identify all sources of income

- The drawdown "bucket" framework and the Rules of Thumb described earlier can help to estimate how much income would be available from drawing down from KiwiSaver or other bucket(s).

- Most retirees will receive New Zealand Superannuation as a base level of income. Other sources of income may include wages, rental income, home equity/reverse mortgage or various sources of government assistance. The Sorted Retirement calculator can help think through how much these other income sources can contribute.

Consider longer-term income needs

- It will also help to have an idea of the likely shape of longer-term needs, but that may not be obvious at the start of drawdown.

- Retirement can be considered in three phases: active, restricted and frail. Not all retirees will spend time in every phase and the duration spent in each phase will differ. The boundaries between phases will blur. However, it is a useful way of thinking about the income and capital needs in retirement. This framework suggests that spending is higher when newly retired and low when activity reduces[20].

- Expenditure in the "frail" stage varies between individuals. The majority of New Zealanders over age 85 spend the end of their life in residential care[21]. The cost of residential care is either very high, costing over $60,000 a year, or is covered by New Zealand Superannuation and Government subsidies if asset and income tests are met. Which group a retiree will fall into will change income needs. The rules are complex and if this is a critical issue for an individual, then personal advice should be sought.

- Similarly, health expenditure, and help with daily life if not in residential care, can be very high if paid for privately, but can also be free for retirees meeting the necessary criteria. Which approach is taken will greatly change income needs.

Manage uncertainty in income needs

- While a popular narrative is that people get poorer as they age, research indicates that the majority of adults reach age 65 with good material wellbeing and are able to maintain or improve their material wellbeing as they age[22]. This underlines the need for retirees to think through as realistically as possible what their own wellbeing might depend on as they grow older.

- The uncertainty involved in later life events may lead some people to keep some savings for such eventualities if they can; but others may wish to spend before the "frail" stage and rely on public services or family if they need to.

- **Being certain about what income might be needed twenty or thirty years after retiring is not feasible, but retirees should find that thinking through possibilities, with advice if required, will help to clarify what income they should look for from drawdown and to make decisions when they review their drawdown experience every year or so**.

4. Policies to make drawdown a success

The foundation – New Zealand Superannuation

- **The public pension New Zealand Superannuation (NZS) protects against longevity risk and is not affected by investment risks**. Nearly all people aged over 65 in New Zealand will receive it, for life. For the great majority it is their only or most important source of income[23].

- **It is vital that NZS is retained as a strong foundation for KiwiSaver drawdown.** KiwiSaver is not designed to be sufficient on its own. Not everyone has KiwiSaver. Small KiwiSaver funds will be depleted after a few years of drawdown, or after a couple of large spends, so cannot offer income throughout later life.

- **Drawdown will be most successful if it is kept entirely separate from NZS**. For example, if income-testing adjusted the amount of NZS according to how much KiwiSaver were drawn down, drawdown would be made even more complex, with the risks of mistakes (including receiving less NZS than entitled to) falling on those less able to navigate the system.

Consistent information being shared widely

- **We have previously discussed[24] UK research** suggesting that guidance for drawdown, such as Rules of Thumb, should nudge savers to the relevant knowledge needed for the drawdown decision, provide a reliable steer that is tested and up to date, and normalise the decision process.

- We interpret this as meaning **reliable, up to date and consistent information on Rules of Thumb should be made widely available** in all the different places and methods through which providers and other agencies must contact people who are considering or could be considering a drawdown decision.

- **This is entirely in agreement with the National Strategy for Financial Capability**, that agencies should work together to supply content – information and guidance – that is consistent across agencies and demystifies drawdown.

- **We see consistency (for example, using one framework for drawdown, one set of Rules of Thumb, or one truth on longevity data) as critical**. A proliferation of information may confuse actual or potential customers. Competition on drawdown service or cost is to be encouraged, but a standard framework within which such items can be compared would be in the best interests of customers.

More information on KiwiSaver statements

- **We would like to see mandated standard wording on KiwiSaver statements**, and consistent wording on other market communications on drawdown (product information, personalised statements or financial advice) which:

  1. encourages KiwiSavers to consider decumulation options for a range of longevity outcomes, for example, to age 90, 95 and 100 years, to increase understanding about the consequences of longevity risk.

  2. uses the most recent data and best understanding of the range of longevity outcomes and trends (as well as economic variables).

  3. explains different drawdown strategies and consequences, including illustration of two or three different Rules of Thumb, to allow for preferences other than the single 'straight line to age 90' option currently in regulations.

More action if evidence emerges of poor choices

- **The above adds to current KiwiSaver practices. We believe further actions may be necessary only once KiwiSaver balances are larger and there is evidence of problems with a simple Rule of Thumb drawdown approach**. Other countries are doing more to mandate or nudge retirees into making choices or making drawdown a default if retirees take no action. However, New Zealand is in a different situation as New Zealand has NZS and a simple, transparent retirement savings framework.

- For example, in the UK, Pension Wise offers free pensions guidance to the over 50s with a 45-60 minute telephone call. In addition, providers must send Open Market Options Statements, known as "Wake Up" packs to pension savers at age 50, then at regular intervals[25]. New Zealand does not have the complexity of the UK market where people often have several KiwiSaver-equivalents.

- The requirement on Australian scheme providers to give effect to a decumulation-phase strategy for their members reflects concerns that the balances in super schemes are not being well used. While KiwiSaver schemes are still growing, there is time to consider what the objectives might be if providers were to be mandated to follow a similar approach, and to learn lessons from the Australian experience.

Glossary

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.

The term **"retirement"** is used in this paper for the phase of life when most people do significantly less or no paid work and generally need income from their savings 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 the individual who is close to or in retirement and thinking about 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 draw down 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.

A retiree will typically have an amount available in KiwiSaver from age 65. However, a retiree may have other savings, assets or investments in one or more other funds or accounts in addition to or instead of KiwiSaver. **This paper describes the "bucket framework", consisting of an emergency bucket and a drawdown bucket**. The drawdown bucket components can be a KiwiSaver fund or other savings which the retiree considers his or her retirement fund, of whatever structure or underlying investment type, provided money can easily be taken out each year.

End notes

[1] https://cffc.govt.nz/about/national-strategy/

[2] https://www.legislation.govt.nz/regulation/public/2014/0326/latest/LMS210887.html

[3] RIIG. (2019). "Longevity in New Zealand: Implications for Retirement Income Policy." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2019/11/2-Longevity-RIIG-FINAL-Oct-19.pdf.

[4] O'Connell, A. (2010). "Retirement Expectations: How long do we expect retirement to last?" In Retirement Income and Intergenerational Equity, eds. Judith Davey, Geoff Rashbrooke and Robert Stephens. Wellington: Institute of Policy Studies.

[5] The Australian Government, The Treasury. (2020). "Retirement Income Review - Final Report." https://treasury.gov.au/publication/p2020-100554.

[6] The Australian Government, The Treasury. (2021). "Retirement income covenant Position Paper." https://treasury.gov.au/consultation/c2021-188347. The core obligation on Trustees is that they must: *Formulate, review regularly and give effect to a retirement income strategy for their members, assisting members to balance three key retirement income objectives: maximising retirement income, managing risks to stability and sustainability of income, having some flexible access to savings in retirement.*

[7] https://www.fca.org.uk/data/retirement-income-market-data

[8] OECD. (2020). "Draft Revised OECD Roadmap for the Good Design of Defined Contribution Retirement Savings Plans." https://www.oecd.org/pensions/designingfundedpensionplans.htm.

[9] https://commonslibrary.parliament.uk/research-briefings/cbp-8674/

[10] RIIG. (2015). "Income Streaming in Retirement: Options for New Zealand." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2015/pdf/NZSA%20Income%20Streaming%20Full%20Paper%20June15.pdf.

[11] RIIG. (2019). "Submission to the 2019 Review of Retirement Income Policies." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2019/11/RIIG-Submission-on-Review-of-Retirement-Income-Policies_WEB-FINAL_Oct-2019.pdf.

[12] Previously the Commission for Financial Capability (CFFC)

[13] https://retirement.govt.nz/news/newsletter/cffc-april-2021/#policy-research-e1999

[14] https://donezra.com/131-your-pension-your-risk-your-choice/

[15] RIIG. (2017). "Decumulation Options in the New Zealand Market: How Rules of Thumb can help." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/new-rules-of-thumb-to-help-kiwis-spend-their-retirement-savings/, and, RIIG. (2020). "Decumulation Rules of Thumb - Update." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2020/12/Rules-of-Thumb-Updated-FINAL.pdf.

[16] RIIG. (2019). "Longevity in New Zealand: Implications for Retirement Income Policy." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2019/11/2-Longevity-RIIG-FINAL-Oct-19.pdf.

[17] O'Connell, A. (2021). "New Zealand longevity update, 2021." longlifepensions.com. https://longlifepensions.com/2021/06/03/new-zealand-longevity-update-2021/

[18] https://www.stats.govt.nz/tools/how-long-will-i-live

[19] Matthews, C. (2021). "New Zealand Retirement Expenditure Guidelines 2021." Massey University Fin-Ed Centre. https://www.massey.ac.nz/massey/learning/colleges/college-business/school-of-economics-and-finance/research/fin-ed_centre/research/research-and-consultancy_home.cfm

[20] RIIG. (2015). "Income Streaming in Retirement: Options for New Zealand." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/wp-content/uploads/2015/pdf/NZSA%20Income%20Streaming%20Full%20Paper%20June15.pdf.

[21] Susan St John and Claire Dale. (2019). "Decumulation: Time to act, Commissioned report prepared for the Commission for Financial Capability's 2019 Review of Retirement Income policies." Retirement Policy and Research Centre, University of Auckland. https://cffc-assets-prod.s3.ap-southeast-2.amazonaws.com/public/Uploads/Retirement-Income-Policy-Review/2019-RRIP/Research-docs/Ak-Uni-RPRC-Decumulation-Research-Report.pdf

[22] Joanne Allen. (2019). "The wellbeing and vulnerability of older New Zealand adults in retirement: a background paper prepared for the Commission for Financial Capability's 2019 Review of Retirement Income Policy." Health and Ageing Research Team, Massey University, page 4. https://cffc-assets-prod.s3.ap-southeast-2.amazonaws.com/public/Uploads/Retirement-Income-Policy-Review/2019-RRIP/Research-docs/The-big-picture/Massey-University-Research-Wellbeing-and-Vulnerability-of-NZers-in-Retirement.pdf.

[23] Perry, B. (2019). "Household incomes in New Zealand: Trends in indicators of inequality and hardship 1982 to 2018." Ministry of Social Development, Wellington. https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/household-incomes/household-incomes-1982-to-2018.html. And Retirement Commissioner. (2019). "Review of Retirement Income Policies 2019, Facing the future." Te Ara Ahunga Ora Retirement Commission (formerly CFFC), page 82. https://retirement.govt.nz/policy-and-research/2019-review-of-retirement-income-policies/.

[24] RIIG. (2017). "Decumulation Options in the New Zealand Market: How Rules of Thumb can help." Retirement Income Interest Group of the New Zealand Society of Actuaries. https://actuaries.org.nz/new-rules-of-thumb-to-help-kiwis-spend-their-retirement-savings/

[25] https://www.handbook.fca.org.uk/handbook/COBS/19/4.html