FORSYTH BARR

A Low Interest Rate World

How Should Investors Respond?

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We are in an unprecedented investing environment, with global and New Zealand interest rates near historical lows. Whilst no one can know for sure, we believe low rates are likely to persist for the foreseeable future. This creates a challenging backdrop for investors. The income able to be earned from most assets, but particularly bonds, has fallen substantially. Unfortunately, this is consistent with our broader expectation that future returns will be more muted than what we've seen in the past decade. Whilst we have no silver bullet solution to deliver higher returns, investors should review the "hygiene" of their portfolios to ensure they are maximising the returns that are available for the risk they are taking.

Figure 1. Low interest rates provide lean pickings for investors

Source: Hedgeye

More equities, less bonds?

With the low income on offer from bonds and term deposits today it is understandable investors are asking "why bother with bonds"? But any thoughts of rebalancing away from these fixed interest investments must consider the important protection role they play in portfolios.

Bonds or term deposits protect investors in two ways. First, they ensure medium-term financial needs are able to be met (avoiding the potential volatility of higher risk assets). And second, they reduce the volatility of an overall portfolio's returns. The shorter an investor's time horizon, or the less tolerance they have for risk and volatility, the more important bonds are in the portfolio — avoiding "sleepless nights" is valuable.

So what is an investor to do?

We have no silver bullet to deliver higher returns (and, in fact, we suggest you strongly avoid those who suggest they do!). The options for an investor to adapt to this environment depend on their own circumstances. Those who are able to increase allocations to higher-risk/higher-return assets should do so. However, taking more risk should not come with a high chance that an investor might not be able to meet short-term needs or long-term goals. Saving more or spending less often feels unpalatable, but is probably the lowest risk option to meet portfolio objectives. For those with an established portfolio, consuming some of their capital may be more favourable than bearing increased risk. The majority of investors do not consume all their capital over their lifetime.

Contents

Investing in a low interest rate world

The current unprecedented environment is a challenging one for investors.

- Interest rates are at unprecedented lows (5,000-year lows according to the research!).
- Central banks around the world are telling us interest rates will remain low for the foreseeable future. Japan is a case study — it has grappled with ultra-low interest rates for 25 years.
- Factors driving low interest rates include an ageing population, higher levels of debt around the world, income and wealth inequality, efficiencies from technology, a global savings glut, and an integrated global financial system.
- Low interest rates have reduced the income bonds and bank deposits provide to investors. But these assets still play important roles in portfolios: (1) providing cash for short and medium-term spending, and (2) protecting portfolios from too much volatility.
- There is no silver bullet solution that will deliver higher returns in a low interest rate world. How an investor adapts is, to a large degree, dependent on their own circumstances. Options include: (1) increasing the allocation to higher-risk/higher return assets, (2) saving more or spending less, and/or (3) consuming capital.
- Key for investors is ensuring they are optimising the returns and risks of the investments they are making.

Investor checklist

Reviewing your portfolio with your adviser, with an eye on the following questions, should help to identify ways to optimise your investments for this low-rate environment:

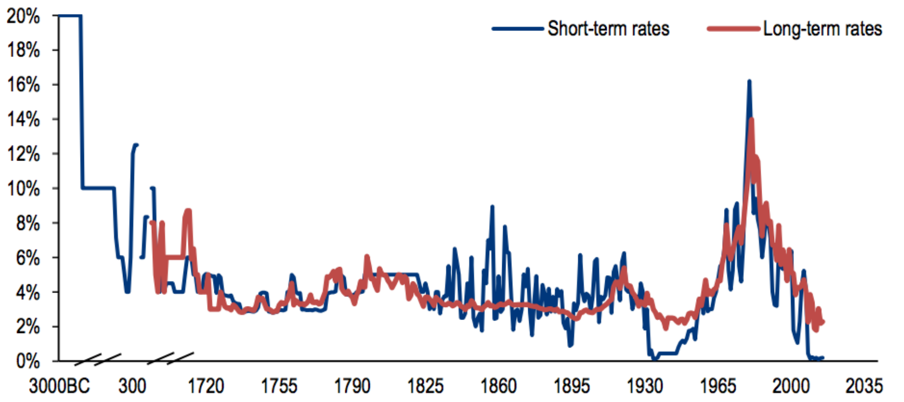
- How is your portfolio positioned?
- How much risk can you tolerate? If you can bear more risk, should you gradually increase your portfolio's weighting to higher-risk/higher-return assets?
- Is the portfolio adequately diversified across and within asset classes to ensure maximum expected return for the lowest possible risk?
- Does the balance of defensive and growth investments meet your near-term needs and longer-term objectives?
- Are there areas of spending that you could reduce without impinging on your happiness?
- How much can you safely withdraw from the portfolio each year and still meet your long-term investment objectives?

Hopefully this exercise will provide ideas to improve a portfolio, or provide comfort that everything is on track.

Unprecedented times

For the vast majority of us, we are in an unprecedented investing environment. Interest rates are bouncing along close to "5,000-year lows". There is debate about the exact reasons for this phenomenon. What is not up for debate is that interest rates are extremely low, and they are extremely low right around the globe. At the August 2019 almost one-third of investment grade (i.e. lower risk) bonds actually provided a negative yield — investors are paying borrowers for the privilege of lending them money (fortunately for NZ investors, these are mainly in Europe and Japan). In a sign of the unique times, a Danish bank was offering a 10-year mortgage at a fixed rate of -0.5% (yes, the bank is paying the borrower 0.5% for the privilege of lending them money!).

Figure 2. Interest rates are at a 5,000 year low



Source: Bank of England, Global Financial Data, Homer and Sylla "A History of Interest Rates", BofA Merrill Lynch

New Zealand follows the leaders lower

NZ has not been insulated from this low interest rate world. In today's integrated global financial system, it is difficult for any country to be.

As the Reserve Bank of Australia Governor Philip Lowe highlighted, if all other major countries are dropping interest rates, central banks are left with little choice but to follow.

> *We feel that we have no autonomy when it comes to shifts in the global equilibrium real interest rate. If we were to maintain our interest rate in the face of a decline in the global rate, our exchange rate would appreciate, likely moving us away from our goals for inflation and unemployment. So we have to move too…*
>
> Reserve Bank of Australia Governor Philip Lowe, August 2019

In NZ the interest rate (yield) on higher quality bonds has fallen steadily, from over 6% a decade ago to around 1.6% currently (below). The income generated by bonds has dropped dramatically. A NZ$1 million dollar bond portfolio generated over NZ$60,000 of gross income in 2009. Today, ten years later, a similar portfolio earns less than a third of that amount — around NZ$18,000.

Figure 3. Less bang for your buck

Source: Forsyth Barr analysis

Interest rates could stay low for a long while

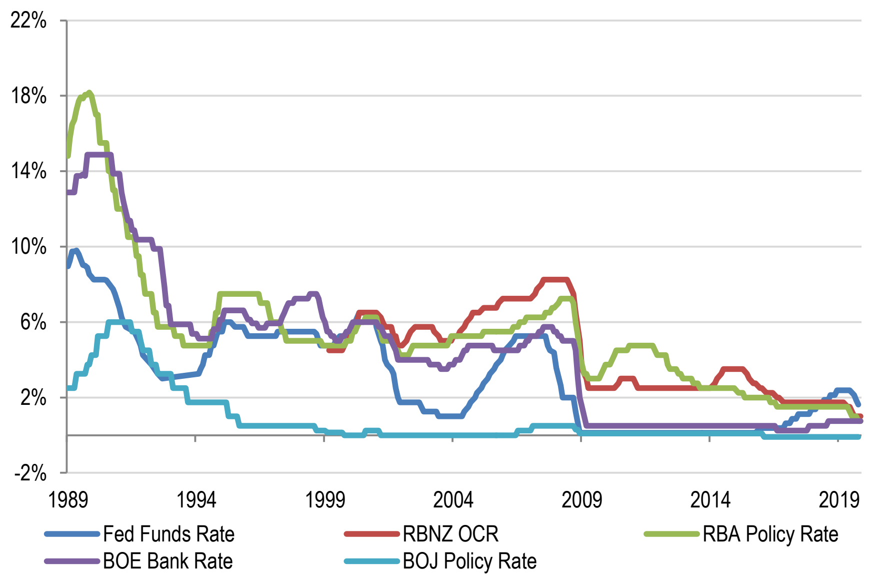
We agree with respected investor Howard Marks of Oaktree Capital when he said, “No one should feel the reasons for negative rates are fully understood”. Similarly, no one really knows how long interest rates could stay near record low levels. Our Reserve Bank believes “interest rates will need to remain at low levels for a prolonged period”. We agree this is likely. Factors that are helping to keep rates low include:

- **Demographics:** Growth in the world’s population is slowing, and therefore so is growth in the demand for goods and services people consume. The world is also getting older. As people retire the potential output economies can produce declines.
- **Higher levels of debt:** Higher debt levels around the world have raised the sensitivity of borrowers and markets to increases in interest rates. The higher the debt, the greater the increase in the cost of servicing this debt when interest rates rise. And when the cost of servicing debt increases, consumers, businesses, and governments typically pull back on spending and investing.
- **Income and wealth inequality:** The ownership of wealth is becoming increasingly concentrated at the top end across the world. Half of the world’s wealth is owned by only 1% of the population. And 85% is owned by 10%. Consumption by the wealthy is less sensitive to interest rates, i.e. they don’t typically spend too much more when rates fall.
- **Technology:** Many (or maybe most) of today’s technology advances are in software. The marginal cost of reproducing and distributing software is close to zero, as it requires little additional investment or labour. This both reduces the demand for capital (you don’t need a lot of new plant and equipment), and helps contain inflation (you don’t need price increases to pay for the additional investment). In the future, technology may also displace jobs and impact consumers’ ability to spend.
- **Globalisation:** The world’s economy is interconnected like never before through trade, finance, and global supply chains. Low cost manufacturing in developing countries has helped keep inflation low. And as Governor Philip Lowe of the Reserve Bank of Australia highlighted in the quote above, in a world where Europe and Japan have negative interest rates, it is hard for other central banks to be too far from the crowd, otherwise currencies appreciate in value and that impacts a country’s competitiveness in the global market.

Turning Japanese?

Japan over the past 25 years could be a case study for what the rest of the world will look like for the next few decades. Japan's working age population started declining in the mid 1990s. Its government debt has soared from just under 100% of GDP in 1995 to 250% today. And the Bank of Japan first adopted zero interest rates in 1999. Japan has had ultra-low interest rates for 25 years. It is possible other economies around the world are turning Japanese, and the current low rate world may be more permanent than many think.

Figure 4. Central bank rates



Source: Thompson Reuters, Forsyth Barr analysis

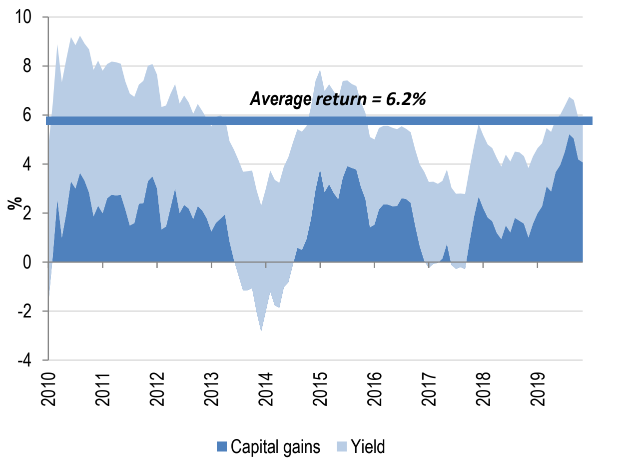
Capital gains have delayed the pain for investors

Until now falling bond rates haven't necessarily been bad for investors. Why? As interest rates fall, existing bonds become more valuable. A bond that is paying a 5% coupon will be more sought after than an equivalent risk bond that pays 1%. The price of the 5% bond rises (providing a capital gain) as bond yields fall.

This has meant that bond portfolios have typically generated respectable returns even as their yields have fallen, delaying the pain of low interest rates to investors. In NZ, a basket of good quality bonds has generated an average return of a little over 6% per annum over the past decade. Over the past year NZ investment grade bonds have returned almost 8%, even as their average yield has fallen to around 1.7%.

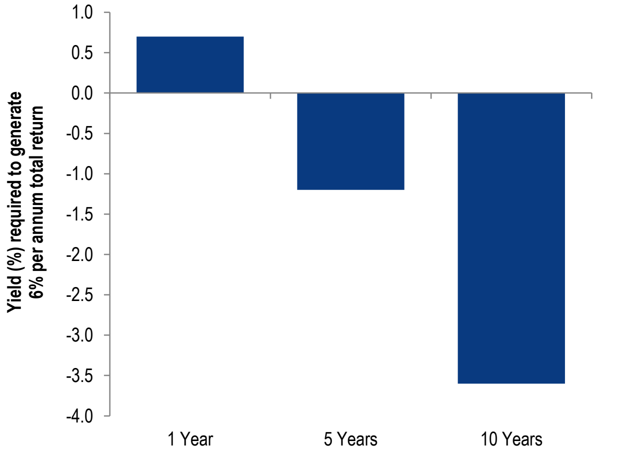
Unfortunately, as interest rates and therefore income from bonds fall, bonds become more reliant on uncertain capital gains as a source of returns. A simple way of highlighting this is to consider the fall in interest rates (or yields) needed to keep delivering the average return of the past decade. The current NZ 10-year Government Bond yields is just over 1%. In order to generate a total return (yield + capital gain) of 6% over the next year, the yield on this bond would need to fall to 0.7% (below right) — a big call, but certainly possible based on how interest rates have behaved in overseas markets. To achieve the same 6% annualised total return for the next decade, the yield would need to fall to -3.6%. This seems unlikely to us.

Figure 5. Bionic bonds



Source: S&P, NZX, Forsyth Barr analysis

Figure 6. Falling yields are required to sustain current returns

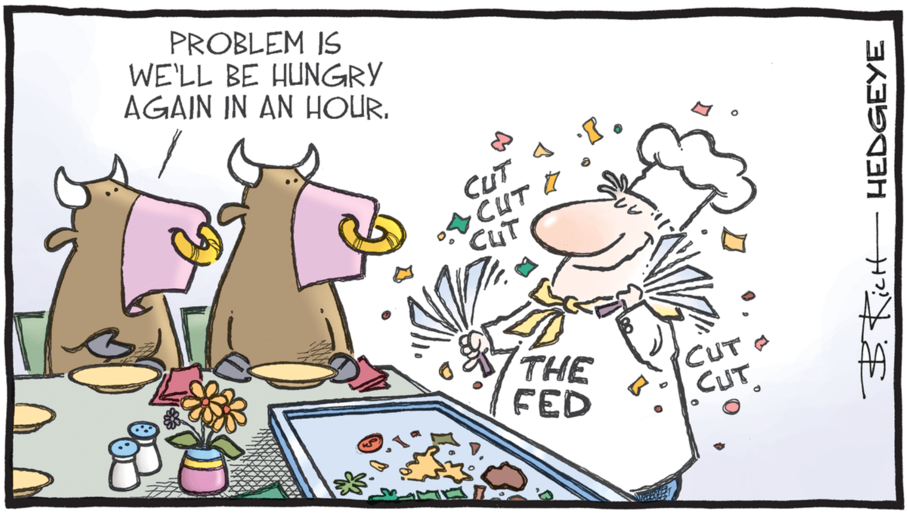


Source: Forsyth Barr analysis

Why bother with bonds?

With the low interest rates on offer from bonds it is understandable investors are asking "why bother with bonds"? To answer that question it is worth refreshing ourselves on the **two key roles bonds play in portfolios: to provide an income and protect capital**.

Figure 7. Why bother with bonds?



Source: Hedgeye

We have been discussing the increasingly challenging environment for bonds to provide an income. But another key role of bonds in portfolios is protection — both in terms of (1) ensuring medium-term financial needs can be met, and (2) to reduce volatility of portfolio returns.

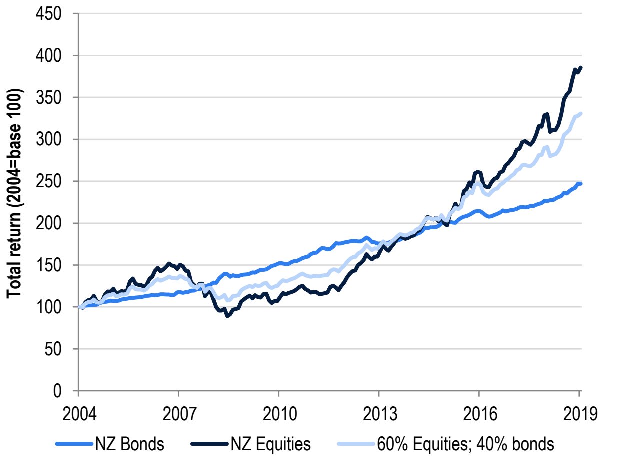
A fundamental principle of investing is the "equity risk premium", which means that investors can expect to earn higher long-term returns from equity-risk assets (such as shares and property) which compensate them for bearing additional risk, including volatility in asset prices. The shorter an investor's time horizon, the more exposed they are to the risk of volatility in asset prices, and the more they need protection.

The last 15 years provide a vivid illustration of the protection bonds can provide. NZ equities (shares) have delivered a touch above +9% per annum over the last 15 years. These attractive returns are why we typically like a healthy allocation to equities in our portfolios. But it has not all been plain sailing. An investor who bought and held an average portfolio of NZ shares 15 years ago would have faced a sell-off (peak losses) of over -40% in early 2009 during Global Financial Crisis (GFC). And it took until 2013 for stocks to recover back to their 2007 pre-GFC levels. If an investor had needed to withdrawal that capital those losses would have become permanent.

What if the investor had held a generous (say 40%) portfolio of bonds alongside 60% equities over that time? Time underwater is still significant at 3½ years. But, primarily because bonds are far less volatile than shares, the maximum loss on the bonds was -4% and the maximum portfolio loss was -21%, around half that of owning equities alone.

So the scope for "sleepless nights" has been considerably less with bonds blended into a portfolio. This protection attribute of bonds we continue to value today.

Figure 8. Bonds vs equities over the long haul, 2004-2019



Source: S&P, NZX, Forsyth Barr analysis

Figure 9. Bonds vs equities over the long haul, 2004-2019

	Per annum return	Worst sell-off	GFC years "under water"
Bonds	6.2%	-3.8%	0
Equities	9.4%	-41.4%	5.7
60% Equities, 40% Bonds	8.3%	-20.9%	3.6

Source: S&P, NZX, Forsyth Barr analysis

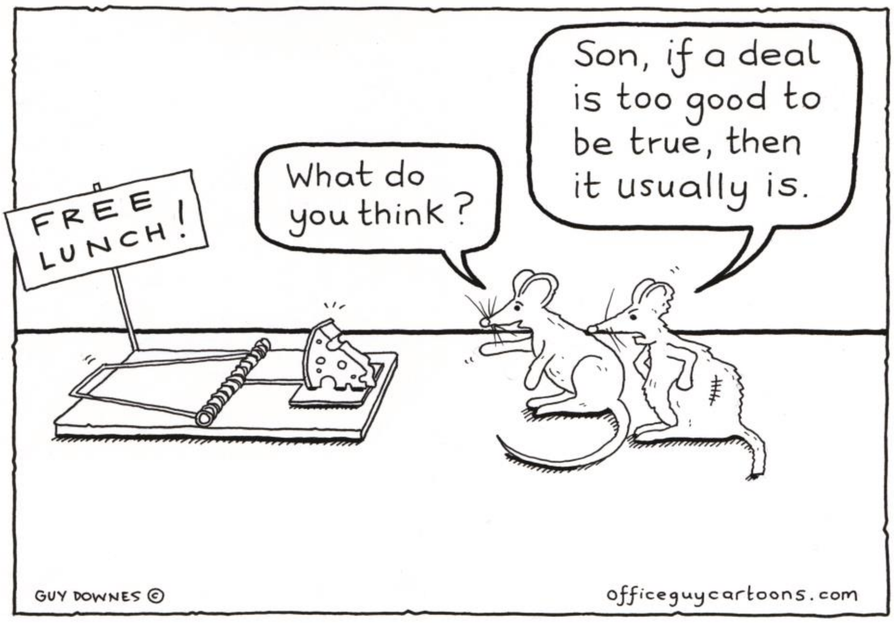
What is an investor to do today?

If inflation and interest rates stay low for the foreseeable future, what does this mean for investors and their portfolios? How can they meet income needs and their long-term investing goals in this difficult environment

No silver bullet

Unfortunately, we have no silver bullet. First and foremost we believe investors need to face up to the expectation that investment returns are likely to be lower in future years than they have been over the past decade.

Figure 10. No silver bullet solution unfortunately



Then, how an investor adapts to this environment is, to a large degree, dependent on their own circumstances. Options for consideration include:

1. **An increased allocation to higher-risk/higher-return assets:** Shortly after the Reserve Bank of NZ unexpectedly slashed the Official Cash Rate (OCR) from 1.5% to 1.0% in August 2019, Governor Orr suggested that savers “put [their] capital to work better” through “real investment rather than just sitting in the bank account”. If investors are able to do so we suggest they should. However, taking more risk should not come at the cost of sleepless nights, or a high chance that an investor runs short of funds later in life.
2. **Save more or spend less.** This is often unpalatable, but it is probably the option with the highest likelihood of ensuring that a portfolio meets its long-term objectives.
3. **Consume capital:** The majority of investors do not consume all their capital over their lifetime. For many, drawing down on some capital to consume may be more favourable than bearing increased risk. This may require a mind-set shift for some investors.

Option 1: Increase allocations to higher-risk/higher-return asset classes

Taking the appropriate level of risk in order to maximise long-term returns is fundamental to building an investment portfolio. Those who are currently taking less risk than is optimal could benefit from higher expected long-term returns for holding riskier assets.

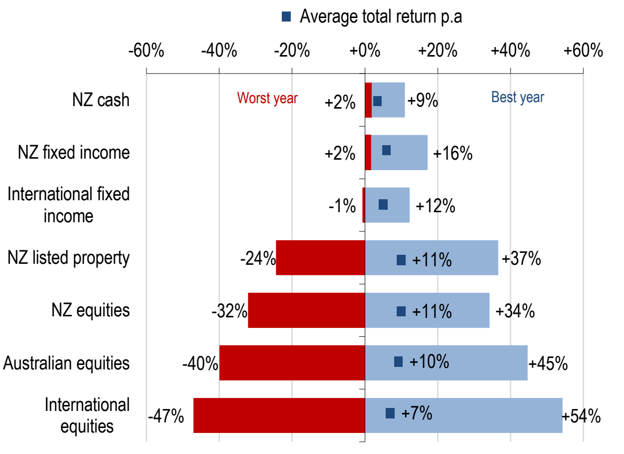
When constructing portfolios we aim to optimise the mix of assets for an individual investor's needs.[1] Each asset class has upsides and downsides. The one constant is that higher risk assets (those whose returns are more volatile, and that are more likely to endure larger losses) tend to deliver higher long-term returns, and vice versa.

The asset classes that are accessible to most investors are (in order from lowest risk and return to highest risk and return): (i) fixed income (bonds or term deposits); (ii) property and infrastructure equities; and (iii) broader NZ, Australian, and international equities.

Higher expected returns …

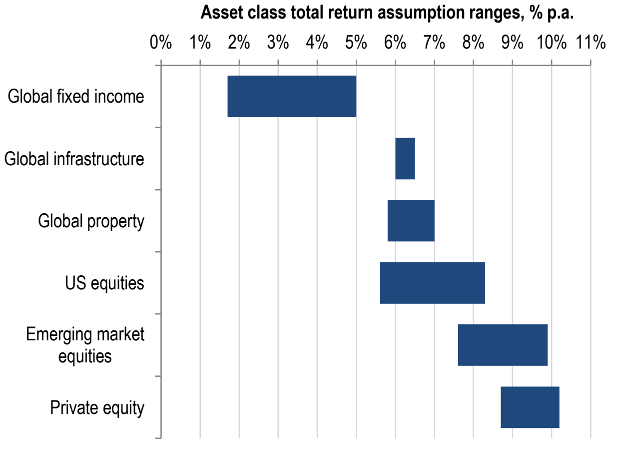
Historically, over the long-term, a well-diversified portfolio of higher-risk/higher-return assets (like equities) has outperformed a portfolio of lower risk assets (like term deposits or bonds). We (and most forecasters) expect this to be the case in future too. Whilst equity valuations are now higher than their historical averages, they are still favourable relative to the very low returns on offer from bonds or bank accounts.

Figure 11. Annual returns for different asset classes, 1998-2019, NZD



Source: Forsyth Barr analysis, Bloomberg

Figure 12. Ranges of different forecasters' annualised asset class return assumptions for the next 5-25 years

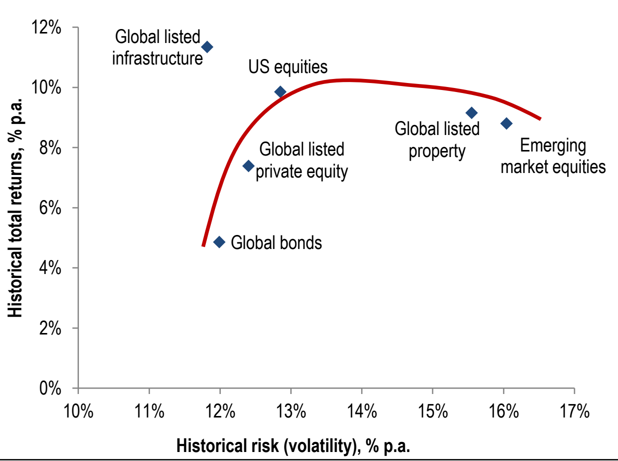


Source: Northern Trust, JPMorgan Asset Management, BlackRock, UBS

[1] To determine the right asset class mix for each investor, we weigh up:

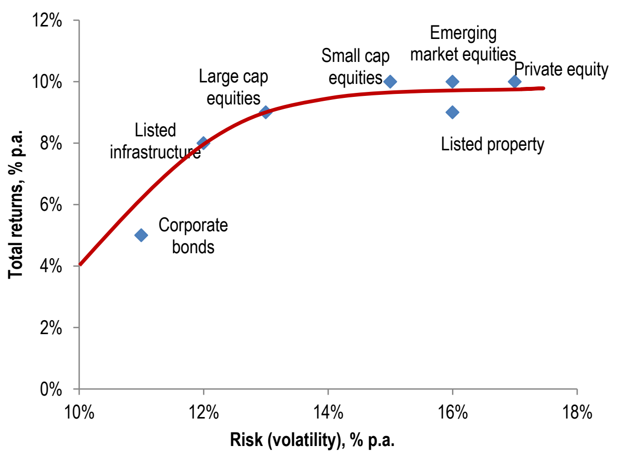
a) The **long-term total returns** we think different asset classes might deliver
b) The **expected volatility** in each asset class's total returns (especially the potential for losses), and the relationships between them
c) How much of a temporary reduction in portfolio value (risk) each investor can probably **tolerate** before they become concerned about their investments (this varies from one investor to the next).

Figure 13. Historical asset class total returns vs risk, 2004-19 (NZD)



Source: Forsyth Barr analysis, Bloomberg

Figure 14. Typical asset class risk/return



Source: Forsyth Barr

… but with higher risk

The danger with pursuing higher returns is overestimating your tolerance for risk. A portfolio with more high-risk/high-return assets is also more likely to experience a larger fall in capital value, particularly over shorter time horizons.

Furthermore, the chance of a significant decline in the prices of higher risk assets increases as the "market cycle" advances. We can't know for sure whether we are in the middle or near the end of the current cycle. What we do know is that the current bull market has been the longest in history, and we definitely aren't near the start. This advises an additional degree of caution when increasing a portfolio's allocation to risky assets.

Human nature means many investors very often compound the pain of a market downturn. Research shows that investors are prone to selling towards the bottom of a market downturn, and not re-entering until the market is well into its recovery and therefore sacrificing much of the recovery gains. Maintaining investment disciplines through market downturns is not easy, but is more likely achieved with support. Research also shows that investors who use the services of an investment adviser have generated higher growth in their portfolios over the long-term than those who did not.[2] A good adviser will help an investor stick to a process that maximises long-term performance for their level of risk.

[2] A Canadian study concluded that households who used a financial adviser, on average, ended up with 1.6x the wealth of households that did not use an adviser over a 4–6 year period, twice as much over 7–14 years, and 2.7x after 15 years or more. The main mechanisms for this increased wealth were: (1) households with advisers saved twice as much as households without advisers, and (2) households with advisers allocated more of their savings to equities.

Vanguard, a global funds management firm that is effectively owned by the clients who invest in its funds, has quantified the value added by advisers through the use of best practices such as: suitable asset allocation, cost-effective implementation, rebalancing, behavioural coaching, tax efficiency, and total return vs income investing. Vanguard believes these practices can add returns of roughly 2.5% on an annualised basis relative to what investors would typically generate when left to their own devices.

Crook, M. (2018) "Investment strategy insights: The anatomy of advice — How do advisors add value?", (12 July), UBS Chief Investment Office Americas, Wealth Management

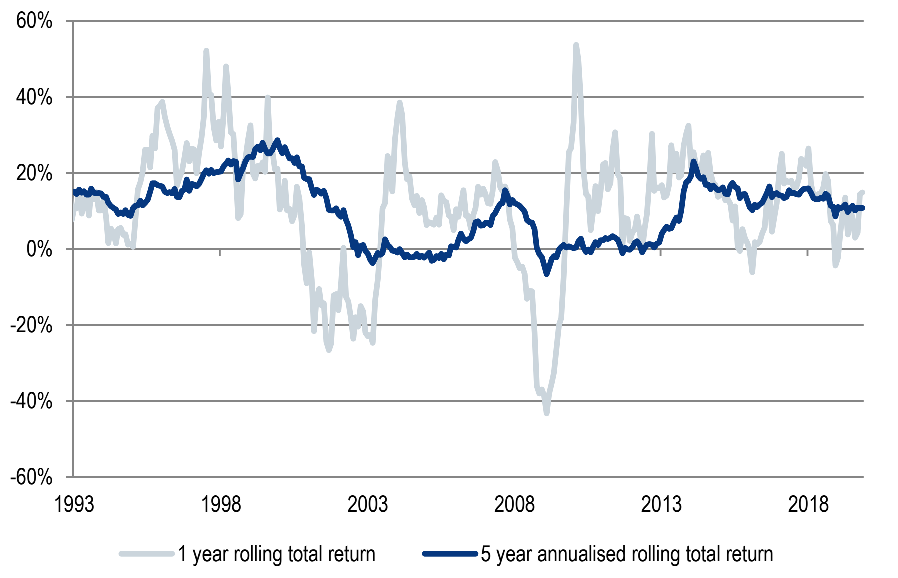
How much risk to take?

How risk tolerant you are is a personal question. Everyone is different.

One way to think about your own risk tolerance is thinking about your cash flow requirements.

- Cash flow needs and objectives for the next 2–5 years should be covered by lower-risk assets (this **"liquidity"** bucket comprises pension income, cash, term deposits, and short-duration, high-quality bonds).
- Longer-term objectives (the **"longevity"** bucket) can afford to take greater risk, because time is generally an investor's friend. Viewed over longer time horizons, equity returns are less volatile and provide a greater chance to earn the "equity risk premium" (the higher long-term returns on offer from equities).

Figure 15. Returns from equities (S&P 500) are less volatile over longer periods of time



Source: Forsyth Barr analysis

Gaining comfort that your liquidity needs are covered might allow you to tolerate more risk in your overall portfolio. It should provide confidence that if a severe market downturn occurs, you can let the more volatile assets in the portfolio recover without needing to sell them.

BUT remember investment discipline remains critical. Increasing a portfolio's allocation to high-risk assets will be counterproductive if, during a market downturn, you would still become concerned and sell assets in the longevity bucket. So making sure you have a portfolio that enables you to stay disciplined is crucially important.

Option 2: Save more or spend less

This is the advice few want to hear. As unpalatable as it may be, it is probably the alternative with the highest likelihood of ensuring that a portfolio meets its long-term objectives.

Saving more (for investors who are in the wealth accumulation phase) or spending less (for investors in retirement who are drawing income or capital from their portfolios) results in a higher capital base to generate returns. This larger capital base, in turn, is then reinvested to generate even more returns … the magic of compounding returns.

Option 3: Consume capital

Most investors do not consume all of their capital over their lifetime, so selling down some of your portfolio to fund spending needs can be a sensible option. Any consumption of capital will influence how much income and capital an investor will have available longer-term. Understanding the magnitude of these implications is important when weighing up between short vs. long-term needs and objectives.

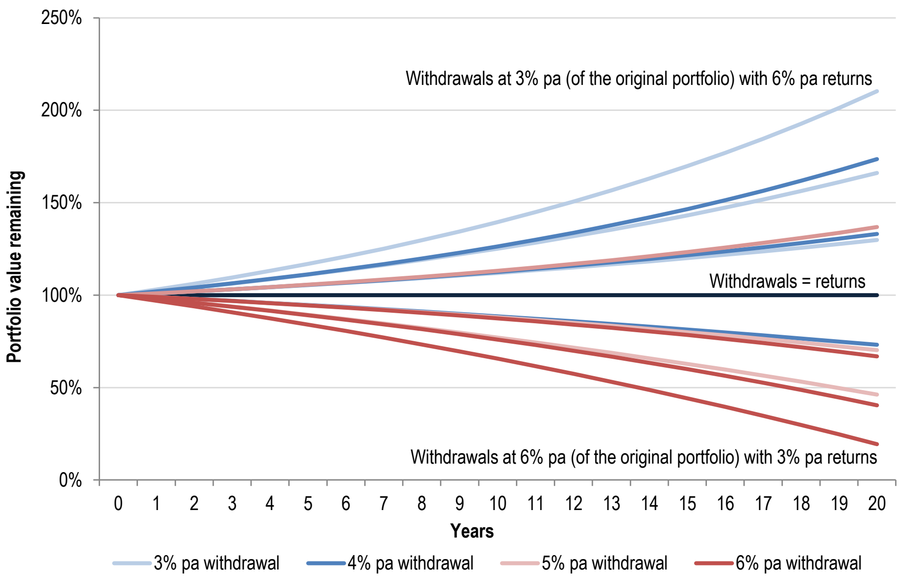
What is a sensible withdrawal rate?

Historically it was generally considered safe for a 65-year old to withdraw about 4% of their starting portfolio to fund retirement spending every year, without risking running out of money during their lifetime. This was based on an assumption that the rest of the portfolio would continue to increase in value at around the rate of inflation, thereby maintaining the portfolio's purchasing power.

Today, however, the robustness of this "4% safe withdrawal rate" assumption is under question given: (i) the current elevated level of asset prices, and therefore potential for more modest long-term returns; (ii) increasing life expectancy and associated long-term care costs; and (iii) a rising risk of unexpected healthcare costs as more life-saving but expensive drugs and procedures become available (and remain unfunded).

The chart below highlights the value of a portfolio over time assuming a range of consistent annual returns of between +3% to +6% p.a., and withdrawal rates also of between 3% and 6% p.a. The chart highlights the compounding benefit of higher returns and/or lower withdrawals over time. It also underlines that, even if withdrawals significantly outpace returns, a portfolio can meet a person's needs for an extended period of time.

Figure 16. There is a compounding benefit of higher return and/or spending less over time
A portfolio's valuation under a range of return and withdrawal assumptions



Source: Forsyth Barr analysis

In the real world investment returns will never be smooth like in the example above. There is also the risk of market volatility and material reduction in asset prices (particularly in the short-term).

One of our international research partners estimated how long a portfolio would last, given: (i) assumed withdrawal rates, (ii) how the portfolio is allocated, and (iii) some recent assumptions about long-term capital market returns and potential volatility.[3] Based on the assumptions used, the simulations suggested that withdrawal rates of 3–4% p.a. are probably reasonably safe for portfolios that need to fund 20-years of capital withdrawals. Over a longer period of withdrawals, the probability of running out of capital does increase.

Figure 17. Consuming 3–4% of a portfolio per annum is reasonably safe if required to meet 20-years
Simulation using different asset allocations and return assumptions over time

Portfolio type	Spending rate (% of portfolio value p.a.)	Median estimated portfolio longevity (years)	Probability of running down portfolio to nil over 20 years
Conservative	3%	87	0%
	4%	42	0%
	5%	29	2%
	6%	22	29%
Balanced	3%	>100*	0%
	4%	69	0%
	5%	36	6%
	6%	26	24%
Growth	3%	>100*	0%
	4%	>100*	3%
	5%	45	21%
	6%	29	28%

* In the simulation these median portfolios did not run out of money
Source: UBS

Actual safe withdrawal rates depend on factors, many of which are outside your control: level of spending, portfolio returns, the timing and magnitude of portfolio volatility, how long you live, the size and timing of unexpected expenses, and levels of government support. As an example, a large withdrawal from the portfolio during a significant market downturn leaves less capital to appreciate in the subsequent market recovery. Many of these factors are uncertain and change over time, so there is no single safe withdrawal rate. Creating a buffer in your budget for uncertainties is prudent.

[3] Crook M., Ganesh K., Waring J. (2019) “Global financial markets: Plan, protect and grow — The road ahead”, 16 August, UBS Chief Investment Office GWM

Appendix

Capital markets assumptions

Figure 18. Different forecasters' capital market return assumptions from 2019

Source	**Forsyth Barr**	**Northern Trust**	**JPMorgan Asset Mgmt**	**BlackRock**	**BlackRock**	**UBS**	**UBS**
Date	22-Oct'19	Jun'19	Nov'19	Jun'19	Jun'19	Feb'19	Feb'19
Time horizon	**1 year**	**5 years**	**10-15 years**	**10 years**	**25 years**	**One cycle**	**Multi. cycles**
Currency	NZD	USD	USD	AUD	AUD	USD	USD
Real/nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal
Fixed income							
NZ cash	+0.8%						
NZ fixed income	+1.0%						
US investment grade bonds		+3.0%	+3.0%			+3.9%	+5.0%
Int'l developed markets fixed income				+1.7%	+3.4%	+3.3%	+4.3%
Gold							
USD	-5.5%						
Real assets							
NZ property	+0-4%						
US property				+6.4%	+6.9%	+6.8%	+8.8%
Global property		+6.3%	+5.8%				
Global infrastructure		+5.8%	+6.0%				
Equities							
NZ equity	+0-5%						
AU equity	+0-10%	+5.7%		+5.9%	+6.7%		
US large cap equity		+5.7%	+5.6%	+7.2%	+8.3%	+5.7%	+7.2%
International equity	+0-5%	+5.8%					
International developed market equity		+5.7%	+6.3%			+7.6%	+7.9%
Emerging market equity		+6.1%	+9.2%	+7.6%	+9.6%	+8.9%	+9.9%
Alternatives							
Private equity		+7.7%	+8.8%			+8.7%	+10.2%

Source: Forsyth Barr analysis, Northern Trust, JPMorgan Asset Management, BlackRock, UBS