Russell Investments

Russell Investments' Communiqué

Our perspective on current and emerging investment issues

INVESTED. TOGETHER.™

Russell Investments' Communiqué

This publication is written by associates of Russell Investments' based around the world.

Russell Investments is one of the world's largest providers of investment advice, with over 45 years' experience in this field. Our advisory team would be happy to help you with any of the issues raised within this document.


Sam Faulkner

Responsible investment: Where value and values intersect

By: Sam Faulkner, Investment Analyst

Introduction

Responsible investment is an approach to investing that explicitly acknowledges the relevance to the investor of environmental, social and governance factors, and the long-term health and stability of the market as a whole.[1]

In this paper, we provide an overview of some of Russell Investments' research on responsible investment. Specifically, we summarise three papers which are particularly relevant to institutional investors:

- ESG tilts and value creation
- Governance processes in the context of responsible investing
- ESG issues in manager research

TERMINOLOGY DEFINED

There is a great deal of terminology surrounding responsible investing. This can be demonstrated by the fact it is near impossible even to introduce the topic without referring to at least one acronym, some jargon, and various other industry buzzwords.

Adding to the confusion, some terms or phrases have evolved to refer to a topic which may not fit with the natural and ordinary meaning of the words themselves. To help you to become familiar with the jargon we have included an appendix with definitions of the most common terms.

We find a helpful broad definitional distinction can be made between value-based investing and values-based investing.

Value-based investing involves the integration of environmental, social and governance factors into a risk-versus-return investment framework. The importance of good governance in assessing a potential investment is well known and widely accepted. The incorporation of environmental and social factors are newer to mainstream investment analysis than governance. A value-based investor considers the risks of environmental damage or negative social impact alongside traditional risks such as leverage, regulation or currency.

A values-based approach, however, is designed to reflect the values of the investor and may involve either positive or negative security screening. The screens are often based on the extent to which the portfolio company generates revenue from one or more industries or practices which the investor considers to be "unvirtuous". For example, if more than 10% of a company's

revenue comes from the sale of tobacco, an investor might choose to exclude the company from the investable set of potential portfolio companies.

A value-based investor may see opportunities where negative externalities are not yet fully priced into stock valuations. By contrast, a values-based investor may have a wider view of desired outcomes; this leads to avoiding returns from prescribed securities.

ESG TILTS AND VALUE CREATION

A big question on investors' minds, which has been the subject of numerous studies, is whether investing in companies that demonstrate strong ESG processes leads to excess returns over and above a market-cap weighted index, or a return penalty.

These studies have generally employed different methodologies, but typically aim to identify an ESG "factor" and to test whether that factor is associated with a return premium or discount. The large number of studies on this topic have led to the publication of meta-studies which summarise the results in aggregate. One such meta-study found that 80% of the publications reviewed demonstrated that prudent sustainability practices have a positive influence on investment performance.[2]

However, given the variety in the methodologies used in these studies, drawing a firm conclusion on the link between ESG factors and investment performance is challenging.[3]

Therefore, rather than trying to link ESG tilts directly to excess return, Russell Investments has instead conducted a study into the presence of ESG factors in active portfolios. [4] Portfolio managers who are paid to outperform a benchmark are expected to construct their portfolios in a way which is intended to generate excess return over a benchmark. Positive ESG tilting among active managers would therefore indicate a consistency between ESG factors and value creation.[5]

The results of our study on global equity managers suggest:

- Median and average ESG factor scores for market indices and for manager positions have grown significantly over the last three years.
- Investors seeking a positive tilt toward ESG factors in their portfolios may find their active products already have one.
- There are regional differences in ESG scores across global markets and active manager portfolios.

Some investors may expect ESG tilts to be value eroding. By contrast we find that professional active managers, who are seeking to add value over a benchmark, often exhibit positive ESG tilts. This finding suggests ESG factors are consistent with the intent of adding long-term value through security selection.

GOVERNANCE PROCESS FOR EVALUATING SUSTAINABLE INVESTING OPTIONS

Assets managed under responsible investment strategies in New Zealand grew by 10% in 2014 to reach a total of $63.5 billion, according to the Responsible Investment Benchmark Report 2015 New Zealand. According to this report, one of the key drivers of this growth is:

> *An increasing awareness by fiduciaries that consideration of ESG issues is an important element of their responsibilities, particularly*

Portfolio managers who are paid to outperform a benchmark are expected to construct their portfolios in a way which is intended to generate excess return over a benchmark. Positive ESG tilting among active managers would therefore indicate a consistency between ESG factors and value creation.[5]

in light of the growing ESG megatrends such as climate change with broad and wide ranging investment implications.

Fiduciaries are required to act with care and diligence so as to avoid making investment decisions that result in undesired outcomes. The traditional view has been that applying apparently non-financial criteria to investment decisions is in conflict with trustees' fiduciary responsibility to act in the best long-term interests of beneficiaries.

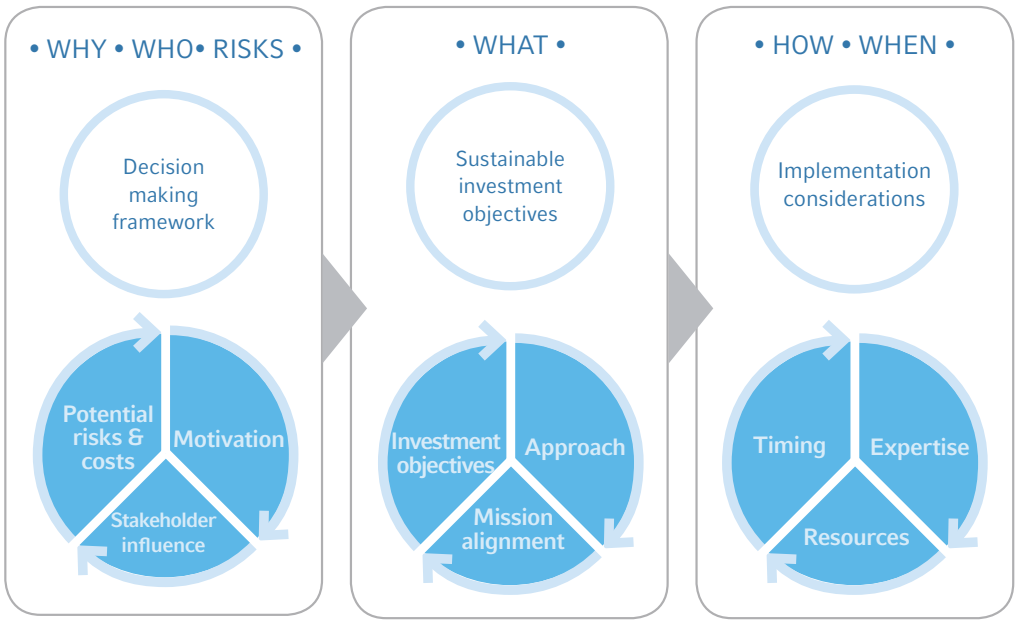
More recently, case law and legal opinion have evolved, as have regulatory and statutory requirements. While legal complexities have not yet been fully resolved, there is now a significant body of research suggesting that ESG issues can have an impact on investment returns, making their incorporation both legitimate and important for investors.

Russell Investments' experience working with trustees has led us to develop a framework to assist with some of the governance-related issues in responsible investing.[6]

The framework includes the following five steps:

- Determining motivation: Why would the organisation pursue responsible investing, or why would it not?
- Defining objectives: What is the objective of pursuing responsible investing?
- Identifying stakeholders: Whose opinions does the organisation need to consider in determining whether there is to be a programme, and its type?
- Considering potential risks/costs: Potential impact, if any, on the overall investment programme?
- Evaluating implementation considerations: How will the organisation implement its responsible investing programme? When should implementation occur?

FIGURE 1: GOVERNANCE PROCESS FRAMEWORK



RUSSELL INVESTMENTS' MANAGER RESEARCH – HOW WE INTERPRET ESG ISSUES AND HOW THAT INFLUENCES MANAGER RESEARCH.

In our view, an understanding of ESG issues can give investors an edge in identifying mispriced securities and under-appreciated risks. We therefore believe that analysis of managers' capabilities in this area is both necessary and valuable.

While we are still working on a complete model of best practice in ESG integration, we can, at this stage, make the following observations:

- Our research incorporates ESG analysis within our existing assessment framework, adding to and adapting the criteria underlying the ranking process.
- We approach this on an asset class by asset class basis, seeking to understand the most critical areas in which ESG issues can impact risk and return.
- Equity asset managers with a long-term process more readily integrate ESG issues into their security analysis. Their longer-term perspective supports the recognition and evaluation of the potential financial impact of externalities.
- Initially, ESG integration was mainly focused on equities and real estate. However, ESG integration in fixed income is now more common. Russell Investments recently conducted a survey of fixed income managers and observed a high level of ESG awareness and a widespread willingness to participate in the UNPRI and NAPF Stewardship Disclosure Framework initiatives.[7]
- To develop our insights, Russell Investments hired an ESG data provider (Sustainalytics) some four years ago and more recently hired a carbon data provider for carbon exposure portfolio analysis.

CONCLUSION

Our research shows that active portfolio managers tend to exhibit high ESG scores in their portfolios. This suggests ESG tilts are consistent with value creation.

There is a growing body of research suggesting that ESG considerations can impact financial returns and including these considerations could be consistent with the care and diligence expected under the traditional view of a fiduciary.

It is for this reason that Russell Investments includes ESG considerations when conducting manager research and analysing investment ideas.

[1] United Nations Principles of Responsible Investment

[2] From the Stockholder to the Stakeholder (2015), Arabesque Partners & University of Oxford

[3] For further discussion on competing arguments around the impact of ESG factors, see Russell Investments' Research: "Sustainable Investing – Marrying sustainability concerns with the quest for financial return for superannuation trustees", Nick Taylor & Scott Donald (2007)

[4] See Russell Investments' research "Are ESG tilts consistent with value creation" Leola Ross, Peiyuan Song and Will Pearce (2014) and more recently "Are ESG tilts consistent with value creation in Australia?" Leola Ross, Peiyuan Song and James McSkimming (2015)

[5] As all investors must be either passive or active, active investors must have the same ESG score as the benchmark, on average. This study is based on the active managers within Russell Investments' manager research database.

[6] For a full discussion of our framework see Russell Investments' research "Governance process for evaluating sustainable investing" Heather Myers and Manisha Kathuria (2014)

[7] See Russell Investments' Bond Manager ESG Survey, David Millen (2015)

ESG terminology

Sustainable Investing
The overarching industry term used to describe investments intended to generate both social and financial returns. "Sustainable investing" can refer to all forms of investments, from debt to equity in both public and private markets.

Socially Responsible Investing (SRI)
The term SRI has evolved specifically to describe the screening of investments in a portfolio. Screening can either be positive (inclusionary) or negative (exclusionary). An example is a screen against alcohol or pornography (negative screen) employed by an organisation for which such investments are counter to its values. The social benefit may not be directly measurable.

Mission Related Investing (MRI)
MRI investments can be clearly recognised as directly aligning with the specific mission and social beliefs of the organisation. Alignment can be expected to be identifiable prior to initiation of the investment and to have social benefits that are measurable.

Impact Investing
The Global Impact Investing Network (GIIN) defines "impact investing" as "investments made into companies, organisations, and funds with the intention to generate measurable social and environmental impact alongside a financial return." The impact sought via these investments is usually specifically targeted to a thematic strategy (health care, clean water, alternative energy etc).

Environmental, Social and Governance (ESG)
ESG is an umbrella term used to describe the non-financial impact of a corporation's action, project or investment. It is often referred to as "value-based" investing, where investors are looking for sustainable financial value by integrating ESG issues within their standard investing framework.

ESG Integration
The explicit incorporation of ESG considerations into investment analysis and the decision-making process, to identify risks that may impact the financial materiality and long term sustainable financial value of the investments.

How big is longevity risk?

By: Tim Cook, Senior Consultant, Australia and New Zealand
Bob Collie, Chief Research Strategist

ISSUE:

In a defined contribution (DC) superannuation arrangement, individual retirees are subject to both investment risk (ie. uncertainty about what their investment returns will be) and longevity risk (ie. uncertainty about how long they will live). Which of these risks is bigger?

RESPONSE:

The relative size of investment and longevity risks changes with age. For the typical investment strategy, investment risk is larger at younger retirement ages, but longevity risk increases with time.

To illustrate, for an 80-year-old, the uncertainty associated with how long they will live is greater than the uncertainty associated with investment returns. However, the reverse is true at age 50.

What's more, at younger ages, the combined effect of longevity risk and investment risk is not much greater than the effect of investment risk alone.

These findings are relevant to any debate on the provision of lifetime income to DC plan retirees. And they will become increasingly important in the coming years as the scale of KiwiSaver increases.

Tim Cook

Bob Collie

BACKGROUND

In a defined benefit (DB) arrangement, the plan participant receives a known income throughout retirement that lasts as long as they do. Hence, the income they receive is not sensitive to fluctuations in market returns, nor is it affected by uncertainty about the future lifespan. Thus, in a DB plan, the retiree is shielded from both market risk and longevity risk.[1]

In a defined contribution (DC) arrangement, the plan participant instead has an account balance, and must decide how quickly to draw that money after retirement. This decision is difficult, because the individual does not know for how long they will live, nor what will be his or her investment returns.

This practice note explores the size of these two sources of uncertainty. We start with a specific case (a 65-year-old female) and then extend that to the more general case.

The 65-year-old retiree – in a certain world…

Imagine a world in which both longevity and investment returns are known with certainty. We will assume that in this hypothetical world, investments return exactly 6% each year, and that a 65-year-old female who retires now will live for precisely 23.4 more years (which is her average life expectancy as implied by the latest New Zealand Period Life Tables 2012-2014.)

In this hypothetical world, since we know with certainty how long income will be required, and we know with certainty what the value of $1 invested today will be at every future point, it is fairly straightforward to calculate that a sum of $100,000 would generate annual income of $7,827 a year for this retiree. This figure represents our baseline result.

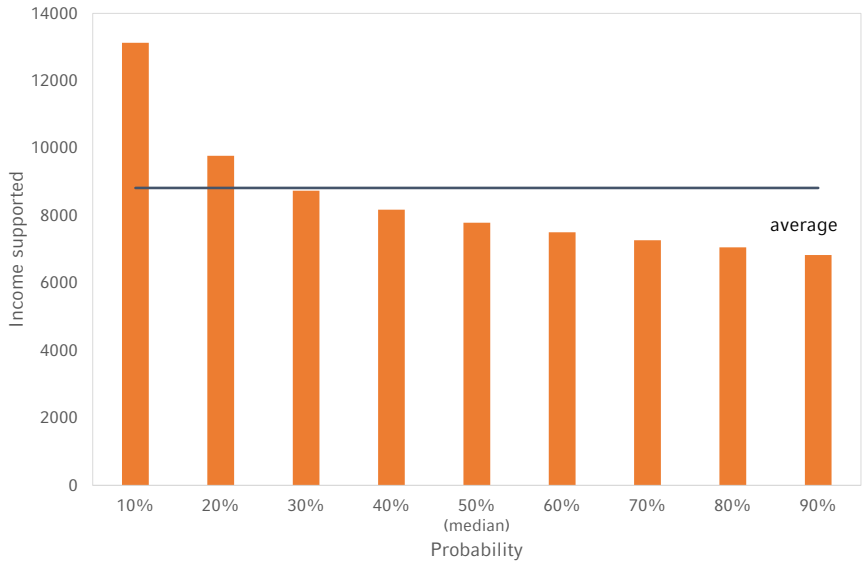
… or if mortality is uncertain…

Now imagine a second hypothetical world – which we might call the uncertain-lifespan world – in which investment returns are certain, but longevity is unknown[2]. The average annual income supported in the uncertain-lifespan world is calculated to be $8,821, with the median being $7,789. While the average lifespan of our retiree in this world is still 23.4 years, there is a 10% chance that she will only live for a further 10.1 years or less, and hence that $100,000 would be sufficient to generate annual income of $13,127 for life. Similarly, there is a 10% chance that she will live for a further 32.9 years or longer, in which case the annual income supported would be only $6,830. The latter figure is of more interest in the context of this analysis, since it is an unexpectedly long life (not an unexpectedly short one) that represents a financial threat.

As shown in Exhibit 1, these amounts are noticeably skewed. If the retiree outlives her average life expectancy, the cost of funding her lifetime income increases, but the additional payments are a long time in the future, so are fairly small in today's dollars.

If the retiree outlives her average life expectancy, the cost of funding her lifetime income increases, but the additional payments are a long time in the future, so are fairly small in today's dollars.

Exhibit 1: The impact of uncertainty in longevity



We see that, for the 65-year-old retiree, introducing longevity risk (but not investment risk) reduces the income that is generated from $7,827 (in a certain world) to $6,830 (at a 90% probability or confidence level[3]), a 13% penalty.

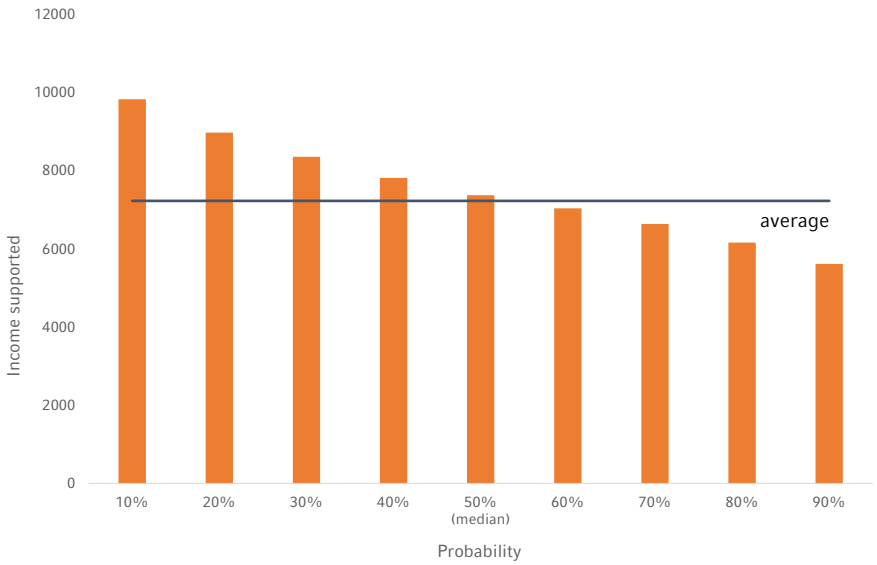
… or if investment return is uncertain…

To put this penalty into more familiar terms, we can compare the uncertain-lifespan world to another hypothetical world, an uncertain-return world. In this world, lifespans are certain, but investment returns are not.

We will begin with a simple and familiar version of uncertain returns, by replacing the 6% fixed-return assumption with a normally-distributed return. In this uncertain-return world, the time horizon is fixed at 23.4 years. For example, if we assume an expected return of 6% with a standard deviation of 10% a year, then the income supported (at a 90% confidence level – exhibit 2 below) would be $5,615, which represents a 28% penalty below the baseline level of $7,827.

We can conclude that longevity risk is smaller than investment risk in this case.

Exhibit 2: The impact of uncertainty in returns (assuming 10% standard deviation in returns)



To arrive at a 13% penalty (equal to the penalty in the uncertain-lifespan world), we would need to set the standard deviation of the investments at roughly 4.6%. Hence, in this case longevity risk can be thought of as akin to a standard deviation of 4.6% in the investment portfolio. This is a low level of investment volatility, compared to that in most actual portfolios, and is roughly what might be expected from a portfolio allocated entirely to fixed income securities.[4]

Thus, the effect of the uncertainty around how long this retiree will live is comparable to the effect of a 4.6% standard deviation in investment returns. Since most investment portfolios have expected volatility that is above this level, we can conclude that longevity risk is smaller than investment risk in this case.

… or both

To complete the picture for the 65-year-old female retiree, we can consider a fourth world, in which both investment returns and longevity are uncertain.

For example, if we assume a standard deviation of 10% in investment returns, along with an uncertain lifespan, then the level of income supported (at a 90% probability) falls to $5,104, a 35% penalty below the baseline. This penalty is larger than the 28% penalty associated with investment risk alone, but not massively so. Indeed, the impact of introducing longevity risk is roughly equivalent to increasing the assumed standard deviation of returns from 10% to 12.2%.

In other words, the interaction of longevity and investment risk means that the combined impact of both forms of uncertainty is only a little more than the impact of investment risk alone in this example.

We summarise the results so far in Exhibit 3 below, adding also the equivalent results for a 65-year-old male retiree and for a male-female (second to die) joint life[5].

The combined impact of both forms of uncertainty is only a little more than the impact of investment risk alone in this example.

Exhibit 3: Income generated p.a. – with 90% confidence – by $100,000 in four hypothetical worlds (age at retirement in 2014: 65)

	FEMALE	MALE	JOINT LIFE
Certain world	$7,827 (baseline)	$8,343 (baseline)	$7,285 (baseline)
Uncertain lifespan	$6,830 (-13%)	$6,983 (-16%)	$6,737 (-8%)
Uncertain returns (Standard Deviation = 10%)	$5,615 (-28%) (or -13% at 4.6% SD)	$6,088 (-28%) (or -16% at 6.0% SD)	$5,106 (-30%) (or -8% at 2.6% SD)
Uncertain lifespan and returns	$5,104 (-35%) (equiv. 12.2% SD)	$5,513 (-34%) (equiv. 12.4% SD)	$4,636 (-36%) (equiv. 12.1% SD)

Variation with age

The results above vary significantly at different ages. At younger ages, the majority of longevity risk is concentrated in the distant future. For example, the 10th and 90th percentile outcomes for a 65-year-old female were noted above as 10.1 and 32.9 years of retirement, so the long life is roughly 3.3 times longer than the short life. At age 50, that ratio would fall to 2.1 times longer; at age 80, it is 7.0 times. Investment risk, meanwhile, reduces slightly as the time horizon shortens.

Exhibit 4 shows the investment volatility (defined in terms of standard deviation) that is equivalent to longevity risk at various ages, and Exhibit 5 shows the investment volatility that is equivalent to the combination of longevity risk and 10% volatility. Both exhibits are based on the same approach as was used above.

Exhibit 4: Variation with age of longevity risk (expressed as equivalent level of investment volatility)

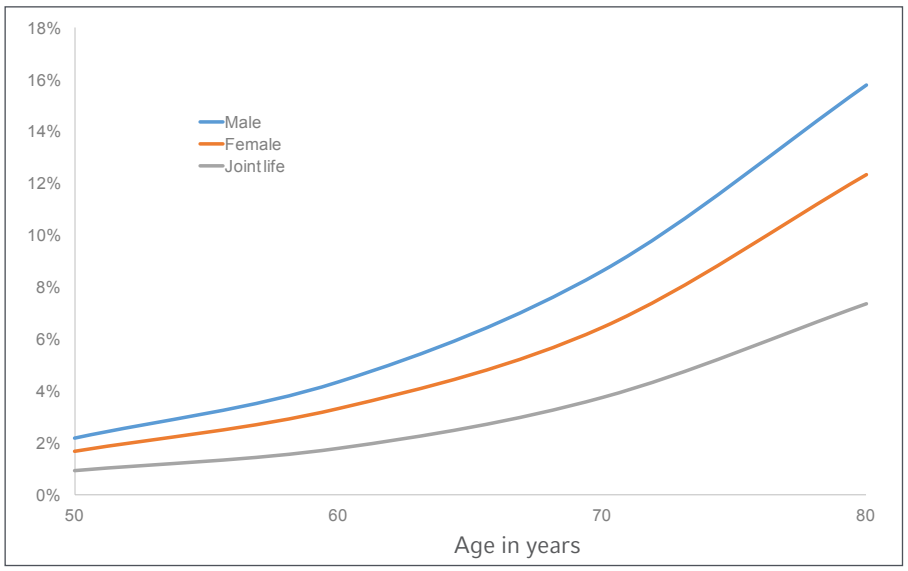
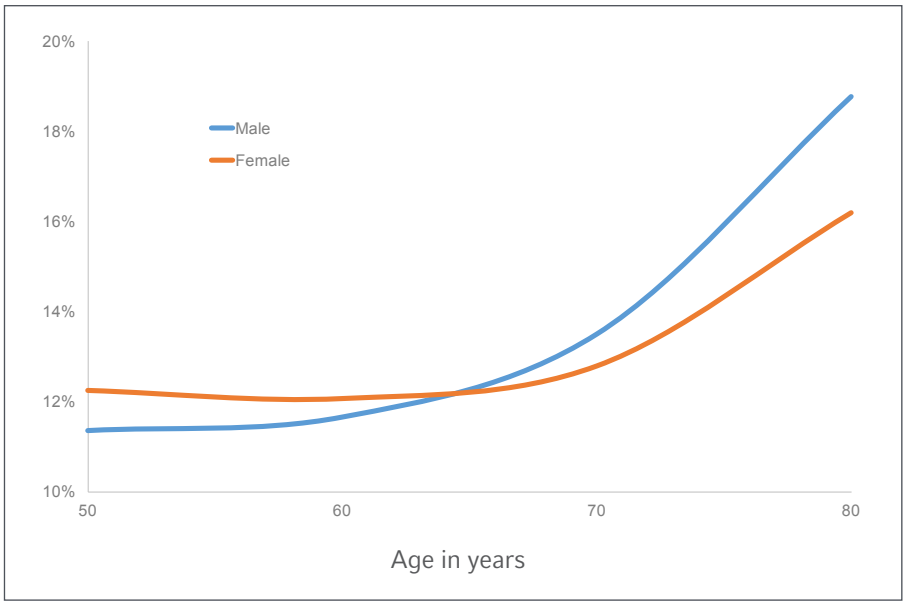


Exhibit 5: Variation with age of impact of combination of longevity risk and 10% investment volatility



Even at a younger retirement age, the threat to financial security that arises from uncertainty in longevity is a right-tail threat.

For a 65-year-old retiree, we concluded above that:

- Longevity risk is smaller than typical levels of investment risk;
- The interaction of longevity risk and investment risk means that the combined impact of both forms of uncertainty is not equal to simply adding the two risks together.

These conclusions hold even more strongly at younger retirement ages. Indeed, at the left end of the charts (age 50), longevity risk is essentially negligible when set alongside typical levels of investment risk.

However, the importance of longevity risk increases substantially at older ages. For an 80-year-old retiree, the uncertainty associated with how long they will live is equivalent to a fairly material level of investment risk.

Appropriate management of longevity risk

As KiwiSaver continues to grow an increasing amount of focus will eventually centre on the question of lifetime income for defined contribution plan retirees. This has been observed in markets with more mature DC benefit structures (e.g., Australia and the United States). As we noted above, the DC system does not provide a stream of retirement income in the same way a DB system does. While it is beyond the scope of this paper to provide a detailed discussion of the various possible approaches to managing retirement income, the relative impact of uncertainty in longevity and in investment returns is relevant to this debate.

The simplest vehicle available to individuals in other markets (with more developed or established DC retirement systems) who are seeking to manage their longevity risk is a fixed annuity contract. This provides a known income for life, in return for payment of an initial premium. These annuities are not, however, pure longevity plays: They also represent an investment decision. The investment strategy that underpins fixed annuity contracts is, for regulatory and risk-management reasons, essentially a fixed-income strategy. It is for this reason that annuities are often seen as unattractive or costly by individuals. We also note that such contracts are not currently available in the New Zealand market.

So what conclusions can be drawn from this analysis and can insights be drawn from overseas markets to the potential evolution of the retirement market in New Zealand?

IS LONGEVITY RISK AN IMMEDIATE ISSUE?

Our analysis might be taken as leading to the conclusion that for typical retirees, it is better to ignore longevity risk in the first few years of retirement, and to attempt to address it later in life, which potentially matches with any timeframe for product innovation in New Zealand.

However, it is not necessarily better to leave this assessment until later in life. Even at a younger retirement age, the threat to financial security that arises from uncertainty in longevity is a right-tail threat (i.e., there is only really a negative impact – a 'positive' or left-tail event means you die early!). Put another way, it is the possibility of the retiree living longer than the average lifespan that may result in financial strain. So it is the right tail – the possibility of outliving average life expectancy – on which any debate should focus.

In theory, managing this right tail becomes more expensive as time passes. A lifetime income payable from age 85 has considerably more uncertainty at age 85 than at age 65. As such the cost of trying to protect against this level of uncertainty is higher. Yet, even at age 65, it is this right tail with which we are concerned. It is this line of thinking that has led to growing interest in deferred annuities in other markets as a means of addressing longevity risk early in retirement, when it can be done more cost effectively.

However, any decision around the purchase of an annuity needs to be judged not only in terms of the management of longevity risk, but also in its impact on investment strategy. To the extent that investment risk is the dominant risk (and we have argued above that it is at typical retirement ages), the purchase of an annuity can be thought of as being an investment decision, just as much as it is a longevity-protection decision.

INSIGHTS FROM OVERSEAS

As noted above, annuities are not currently available in New Zealand. Given the nascent state of KiwiSaver (balances have only been accruing for just over eight years) it will be some time before balances become material. If retirees choose to address longevity risk later in life (ie. during retirement rather than at retirement), then it might be even longer before sufficient scale builds in order to attract annuity providers or drive product innovation. Negotiating regulatory hurdles could also push out the development of an annuity market.

In the meantime, what does the above analysis suggest? It illustrates that retirees can potentially run higher-risk strategies early in retirement when their balances are larger and the risk of living another year isn't material to their standard of living. However, more cautious investment strategies may be more pragmatic later in life, ensuring that sufficient assets are conserved for future years. At 85 years of age, with an ever decreasing balance, the risk of living for 10 rather than five years has a more significant impact on annual income. Longevity risk in this instance therefore increases the probability that retirees will run out of money, meaning they might be forced to lower their standards of living. On the other hand, this could lead to the risk of living too frugally.

As noted, in other markets this debate and subsequent product innovation and regulatory change can take time. In Australia the debate still rages (if anything in the retirement world can rage) as to whether annuities should be included within the forthcoming, regulatory-mandated, Comprehensive Income Product for Retirement (CIPR)? Or whether longevity risk can be managed appropriately through changing asset allocations in a managed account? In the UK, where compulsory annuitisation has recently been removed, the same debate and product innovation is occurring, albeit from the other end of the spectrum.

So while the jury is still out on how, there is general agreement that annuities can form part of the solution. As such it is almost inevitable that as KiwiSaver grows, so too will the demand for longevity protection. For this reason it is better to start the conversation sooner rather than later.

[1] There are other risks, however. For example, some defined benefit arrangements in New Zealand are lump sum in orientation and therefore the investment and mortality risks revert to the member on retirement. The benefit is also contingent on the continuing ability of the plan to meet its obligations.

[2] Longevity in this example is estimated by the latest New Zealand Period Life Tables 2012-2014. A distribution of potential lifespans is calculated using the probability of dying in each year. This spectrum of lifespans is then used to estimate a distribution of annual incomes.

[3] A 90% probability level or confidence level refers to the distribution of outcomes that varying the longevity risk (in this particular example) creates with the predicted annual income. The 90% level is illustrative of the annual income level of which 90% of outcomes have a higher dollar amount per annum and 10% of outcomes that had a lower dollar amount per annum.

[4] Russell's standard capital market assumptions as of 30 June 2015, for example, have an expected time series volatility on aggregate fixed income of 4.0% a year over the next 20 years.

[5] Male-female (second to die) joint-life is where the payments are made as long as one of the couple are alive. Only on death of both individuals do the payments cease.

[6] Payments from annuities are subject to the claims-paying ability of the issuing insurance company.

[7] Last year, the U.S. Treasury and the Department of Labor issued regulations that made qualifying longevity annuity contracts (or QLACs) more accessible to DC plan participants. These contracts provide lifetime income starting at an advanced age, such as 80 or 85. For an overview of these regulations, see "Qualifying Longevity Annuity Contracts: Frequently Asked Questions" (December 2014), available at DCIIA.org. In Australia the prospect of freeing the deferred annuity market from the tax disadvantages it currently suffers is of constant debate. The Financial Systems Inquiry 2014 recommended that such impediments to innovation should be removed.

Bob Collie

Risk management perspectives: Eight conversations

By: Bob Collie, FIA, Chief Research Strategist, Americas Institutional

In a new publication, Bob Collie documents conversations on the subject of risk management that he has had with a range of experts in recent months. Here are some excerpts from those conversations.

THE NON-PROFIT ORGANISATION

Kathleen M. Markey, commenting on building business relationships

Kathleen M. Markey has worked on the buy-side, the sell-side, and in the corporate sector—she began her 16-year Salomon Brothers career as the first woman bond trader and went on to co-found and build a financial services boutique. Today she is a senior vice-president with an institutional broker-dealer.

Investors should look closely at those with whom they choose to work and take the time to understand compensation structures and the incentives they create. "The board member with a fiduciary responsibility should understand the biases of any entity with whom they are dealing. You do the best job that you can in a pragmatic and forthright way and partner with the best individuals and firms that you can. I recall that during one of my first days at Salomon Brothers, William Salomon and John Gutfreund[1] advised me: 'We do not expect you to know everything, but we expect you to know where to access it and to access the best.' And that was an incredible guideline for much of what I've done since."

Kathleen points out that the Madoff scandal[2] would have played out very differently, had more people been willing to ask searching questions.

Having gained experience early in her career on a trading floor, the question of liquidity is prominent. "Risk tolerance must be focused on liquidity and cash and the ability to access a portfolio in an appropriate period of time." Among other things, this can mean taking a closer look at leverage/debt, which affects liquidity during times of market stress. And liquidity is a risk that is dormant much of the time, hence easy to overlook: "It is human nature that even the brightest forget," says Kathleen.

PUTTING PRINCIPLES INTO PRACTICE

Michael Thomas, commenting on bailing out

Michael Thomas
Chief Investment Officer,
Americas Institutional

"Without a doubt, the biggest risk we face as investors is bailing out after that left-tail event happens. To be clear, it's not really the risk of 'you' bailing out, but rather the person who is in your position when that left-tail event occurs. Decisions that are made in extreme markets leave indelible marks on the portfolio."

"I recall speaking on a panel after the global financial crisis, where a well-known GTAA manager was describing how they had gotten out of equities in early 2007—well before the financial crisis—and that fully half of their clients had fired them for missing out on the returns from 2007 and most of 2008. They were essentially bragging about how they were right and their clients were wrong. The point I raised is that if you manage a portfolio in a way that your clients can't stick with, and as a result they miss out on returns, you have failed them full stop."

[1] William Salomon was managing partner at Salomon Broters from 1963 to 1978. John Gutfreund succeeded him in the role and headed the firm until 1991.
[2] The Madoff scandal was a Ponzi scheme that was unearthed in 2008.

THE PUBLIC PENSION PLAN

Don Pierce, commenting on innovation and disruption

"When I think about risk, I think about loss of capital, and I think about uncertainty," Don says. And here he is careful to clarify what he means by uncertainty: "[It is] not volatility, but the things that aren't necessarily priced into the asset."

As Don describes it, uncertainty is not a mathematical concept. Rather, it is (for example) the possibility that the dollar will lose its status as the global reserve currency, or that the terms of a debt security will be altered. It's the possibility that there will turn out to be material default risk on AAA-rated securities, or that something will come out of nowhere to change a business model. "If you were in the taxi business five years ago," Don says, "it was probably hard to imagine that some app might come out of Silicon Valley and disrupt your business. Today, we can ask what the impact of drone delivery might be on transportation logistics. There is a hotbed of innovation that can change business models overnight, and suddenly what you thought was a very reasonable and solid business has turned into a dinosaur."

Don Pierce is chief investment officer for San Bernardino County Employees' Retirement Association, responsible for developing and implementing investment policies and selecting the association's investment managers.

THE HEALTH SERVICES ORGANISATION

Evan Jones, commenting on managing risk for a HSO

While many institutions regard risk as a lever that can be used in pursuit of targeted returns, that's not how Evan sees it. "Our plan is to run the hospital and to generate an operating margin that is sufficient to fund all of the capital needs of the institution. We're not looking to get a particular amount of return from our investments in order to fund our capital needs. We're much more likely to ask, 'What kind of return can we get within a given risk tolerance?' We're much more interested in risk versus return than in getting a specific return."

In practice, risk management is applied differently within each pool of assets, reflecting the different roles and time horizons. Evan starts with the largest pool, the long-term fund: "When I arrived here [in 2011], we had total investments in the $270 million range. And some $30 million of that was invested in a hedge fund in which we were more than 50 percent of the total value. I found that to be a little bit disconcerting. And even in what would have been considered cash-equivalent types of investments, there was a level of complexity—in currency hedging, for example. It was difficult to understand what exactly we had."

Evan Jones is chief financial officer at Lakeland Regional Health, a Central Florida healthcare system. Before joining Lakeland Regional, Mr. Jones served as vice president of finance for Lankenau Medical Center in Wynnewood, Pennsylvania.

THE CORPORATE PENSION PLAN

Jeanmarie Grisi, commenting on the increased attention paid to liabilities among corporate pension plans

Even though manager oversight takes up most of its time, the responsibilities of Jean's team extend further than this. They play an important role in recommending asset allocation policy, which sets the framework within which the managers are chosen. In that context, Jean describes a growing focus for the team: liabilities. "We're still asset managers, but we've had to learn to understand plan liabilities in much more detail. So that's been a change for us." The Alcatel-Lucent plan is more mature than many: "For a very long time—at least 15 years—our liabilities have been more certain, in that 80% to 90% of the liability has been for individuals who no longer work at the company." Combined with changes to accounting and funding rules, this creates a shorter time horizon.

Jean doesn't make much use of the phrase *liability-driven investing*. "We would probably say that we're 'liability aware'—we're looking to minimise our surplus risk."

In her role as U.S chief investment officer and president of Alcatel-Lucent Investment Management Corporation (ALIMCO), Jeanmarie (Jean) Grisi leads a team of 25 professionals responsible for the management of more than $38 billion in defined benefit and defined contribution retirement plan assets.

James Barber
CIO, Equities

Scott Bennett
Director of Equity Strategy & Research

EQUITIES

James Barber and *Scott Bennett*, commenting on the use of smart beta and factor exposure management

As Scott puts it: "This is a big shift in the market, because previously it was really product providers pushing smart beta in the market, saying, 'we can beat a cap-weighted index.' But as investors better understand what the drivers of these performance patterns are, they're able to make more informed decisions based on what they are trying to achieve, about which strategies are best suited to achieving that objective. It might not always be to outperform a cap-weighted index."

James says there are at least three different ways in which factor exposures can be used in portfolios: strategic positioning; dynamic (or tactical) positioning; risk management.

Increasingly, the primary role is strategic: conscious positioning of portfolios to reflect either a specific objective or a belief about likely future returns. Factor exposures can be valuable tools for ensuring that at the total portfolio level, the risk budget is consistent with the investor's strategic beliefs on factors such as value, momentum, quality or size.

Kevin Turner
Managing Director, Consulting

GOVERNANCE

Kevin Turner, commenting on investor beliefs and behavioural risks

In recent years, Kevin has pushed clients to think more about what drives their investment processes: Are there defensible investment beliefs underlying their decisions? "We've worked with several clients on what we call a 'beliefs exercise.' This is not about creating some theoretical construct disconnected from the portfolio, but rather about looking at how the portfolio is actually positioned, and asking, 'What would we need to believe for this to make sense? Do we really believe that?'" Ensuring that actions are aligned with such beliefs can help to protect against capitulation when things don't go as planned.

A related theme in client work has been the need to recognise the lessons of behavioural finance in decision-making structures. "Investors need protection from themselves," Kevin argues. "The lessons of behavioural finance apply not just to individuals, but to institutional investors too. We all need to accept that we are human. Sometimes it's about recognising the likely biases in our decision-making and mitigating those biases, rather than pretending we aren't prone to such biases, or that we can eliminate such behavior."

Stas Melnikov,
Director and Head of Investment Risk Management

RISK MODELING

Stanislav Melnikov, commenting on volatility regimes

"I think we can all agree that volatility correlates across time. But it is also susceptible to large jumps, or regime changes. But there's no announcement to tell you when that happens. What we do observe are the returns. And so based on the returns, you can infer, and you can reverse-calibrate this model to detect what kind of volatility regime you are most likely in today. You cannot predict when the regime is going to change, but you can detect the change when it happens."

Regime change affects not only market risk, but liquidity risk, too. "It can flip very quickly," Stas adds. "Especially now. No one knows what the effect will be of ETFs becoming a bigger share of the market, or of banks shrinking their balance sheets due to the new capital requirements and the drop-off in bond trading. I don't know what will happen in the next liquidity event, but none of the indicators point to its being less severe than the ones we've witnessed before."

The effect of the term premium in a rising rate environment

By: Bob Collie, Chief Research Strategist

Bob Collie

ISSUE:

Interest rates are widely expected to rise in the coming months and years. Some investors may feel that it is obvious how to position a portfolio in a rising rate environment. However, the question is more complex than it first appears. For example, what is the "term premium," and how does it affect portfolio positioning at a time when interest rates are expected to rise?

RESPONSE:

Investors who believe that it is obvious how to position a portfolio in a rising rate environment may find themselves taking positions that have low odds of success. There are two important (albeit technical and easily overlooked) considerations here: forward pricing and the term premium.

Forward pricing refers to the fact that, at any point in time, there is a break-even future path of interest rates that would lead to all fixed income investment strategies delivering equal returns. This break-even path can be derived from current bond prices and is captured in the forward curve.

So when a portfolio is positioned to benefit from a rise in interest rates, the gain or loss that results from that position depends not only on changes in interest rates, but also on the forward curve at the time the position was taken. (See Collie [2012] and Gannon [2013].)

Further, both investment theory and historical analysis point to the existence of a term premium, whereby markets tend to offer higher returns to holders of long-duration fixed income securities than to holders of shorter-duration fixed income securities. One implication of this is that the break-even path (i.e., the forward curve) is not determined purely by market expectations, but also reflects this term premium. In other words, the forward curve tends to price in a bigger rise in interest rates than would be implied by market expectations alone.

This means that a position on rising rates should be expected to make a loss more often than not, even in an environment where rates are expected to rise.

BACKGROUND

Forward pricing

The forward curve can be thought of as defining a break-even future path of interest rates, under which all fixed income strategies would deliver equal returns.

This break-even path is important, because it defines the neutral outcome against which future expectations should be judged. Only when an investor expects interest rates to rise faster than is already priced in to the break-even path does it make sense to position a portfolio for a rise in rates. Such a position would lose money – even in a rising rate environment – if the rate rise is slower than is already priced in.

This point is covered in more detail in Collie (2012) and Gannon (2013). Further detail – based on the Treasury curve at the end of March 2016 – is included at the end of this paper.

Market expectations and the term premium

The forward curve describes a future level of interest rates, a future that is (in a sense) currently priced in to the market. It might be thought of as analogous to the future level of expected earnings that is priced in to a current stock price, or to the future level of inflation that is priced in to an inflation-protected security.

Clearly, one important element of forward curve pricing is market consensus expectations (i.e., what investors in aggregate believe interest rates are likely to be in the future). That is not, however, the only element.

So while the forward curve represents a neutral break-even path in which all fixed income strategies deliver the same return, that path can – and generally does – differ from the true consensus market expectation. This happens because, other things being equal, most investors prefer short bonds over long[1]. So the pricing favours holders of long bonds. This term premium is a part of investment theory, just as are the equity risk premium and the illiquidity premium[2].

The existence of a term premium would affect the forward curve and the break-even path of interest rates; a term premium would lead to the market pricing in a bigger increase in interest rates than is truly expected to occur.

Evidence of the term premium in history

Historical evidence of the existence of a term premium can be seen, for example, in the forward pricing of Treasury yields.

Chart 1, below, compares

a. the change in the yield on a two-year Treasury bond that was priced in to the market each day from the start of 1990 through the end of March 2015[3] and
b. the actual change in yield that subsequently occurred.

Chart 2 shows the same comparison based on the ten-year Treasury yield.

CHART 1: FORWARD AND ACTUAL CHANGES IN THE TWO-YEAR TREASURY YIELD, JAN 1990-MAR 2016

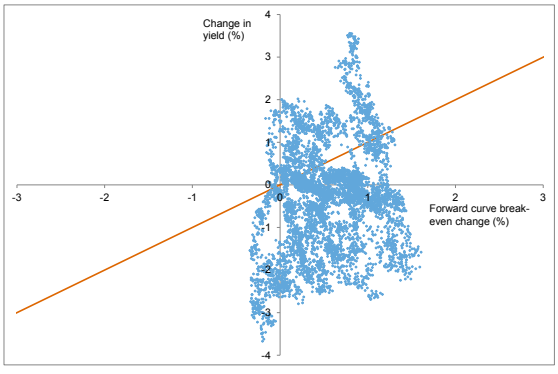
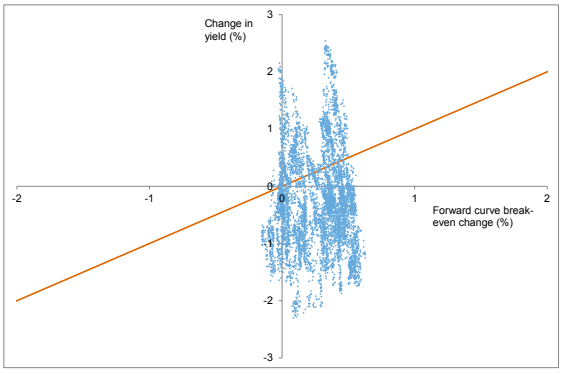


CHART 2: FORWARD AND ACTUAL CHANGES IN THE TEN-YEAR TREASURY YIELD, JAN 1990-MAR 2016



For example, at the end of March 2015, the market priced in an increase of 0.65% in the two-year yield and an increase of 0.24% in the ten-year yield over the next 12 months. The actual changes in those yields over that period were increases of 0.18% and 0.27% respectively.

The orange (break-even) line separates those data points where the actual change exceeded the forward pricing from those where it did not. In the case of the two-year yield, only 22% of the data points (1,379 out of 6,316) lie above that line. For the ten-year yield, 26% of the data points (1,646 out of 6,316) lie above the break-even line.

Even though the 26 years that our analysis covers was – overall – a period of falling interest rates, the two-year yield actually rose in 41% of the 12-month periods analysed and the ten-year yield in 33% of the 12-month periods. However, in a substantial proportion of those cases, the yields rose by less than the break-even change that was priced in to the forward curve.

Hence, a portfolio position based on an expectation of an increase in the two-year yield would have lost money 78% of the time over the period studied. A position based on an expectation of an increase in the ten-year yield would have lost money 74% of the time.

Even more notable is the high proportion of the data points that lie on the right of the charts. The market priced in an increase in the two-year yield 90% of the time over this period (89% of the time for the ten-year yield.) Indeed at no point did the market price in a fall in the two-year rate of more than 0.34% or a fall in the ten-year yield of more than 0.15%.

This was a period when rates actually fell more often than they rose. So even though rates actually fell most of the time, the market was nearly always pricing in an increase.

This represents evidence in favour of the existence of a term premium; it seems very unlikely that the market really was expecting a rise at just about every point in time over this period and was just wrong a lot. It is more likely that the break-even rate of change priced in to the forward curve was higher than the market's true consensus expectation much or all of the time (i.e., that it included a term premium). As is mentioned above, this would be consistent with standard investment theory.

Thus, there does appear to have been a substantial tendency to price in faster rate increases than are actually expected to occur: bets on rising rates have not tended to be 50/50 propositions.

Note that forward pricing has varied materially over time, sometimes moving substantially in fairly short periods. Those variations likely result from variations in both market expectations and the term premium. In other words, while the data strongly point to the existence of a term premium overall, the size of that premium does appear to fluctuate over time.

Portfolio positioning

Actual movements in interest rates can be large even over short periods. There is a wide distribution of possible outcomes – an upside tail of very big rises in rates and a downside tail of falling rates. This note has concentrated on the average or expected outcomes, rather than on the full distribution. I have concluded that a bet on rising interest rates is a worse-than-50/50 proposition, even when (as at present) rates are expected to rise.

I should point out that the analysis above is not necessarily a sufficient argument for taking a position in favour of falling rates. There are a number of other considerations

that would need to go into the decision to take such a position. Nor am I arguing that it is never appropriate to take a position in favour of rising rates. The point is, rather, that the decision is by no means as clear-cut as a naïve investor might suppose.

The belief that we are in a rising rate environment is not enough to justify a portfolio position betting on such a rise; investors who mistakenly believe that it does may find themselves taking positions that have low odds of success.

Forward curve pricing as of March 2016

As of 31 March 2016, the yield on a two-year Treasury bond was 0.73%; on a five-year bond, 1.21%; and on a 10-year bond, 1.78%.

If the yield curve were to evolve in the future exactly in line with the forward curve, then the returns on each of those three securities would be the same.

The forward curve at the end of March 2016 shows that the break-even path currently involves increases in rates. The two-year yield, for example, would rise by 0.28% to 1.01% at the end of March 2017; the five-year yield would rise by 0.34% to 1.55% at the same date; and the 10-year yield would rise by 0.18% to 1.96%. The increase that is priced in to the yield curve is slightly lower than the average break-even change over the 26 years of our analysis.

When a portfolio is positioned to benefit from a rise in interest rates, the gain or loss that results from that position depends on how interest rates change relative to the forward curve (not relative to the current yield curve). Thus, if a portfolio is positioned for a rise in the two-year Treasury yield over a 12-month horizon, the break-even point for that position is the forward yield of 1.01%, not the current yield of 0.73%. Likewise, if a portfolio is positioned for a rise in the ten-year Treasury yield over a 12-month horizon, the break-even point for that position is the forward yield of 1.96%, not the current yield of 1.78%.

If the yields rise by less than that, the positions would result in a loss. Thus, in order for a position on rising rates to make sense, it is not sufficient to expect that yields will rise; it is necessary to expect that they will rise above the level of the forward curve.

REFERENCES

Collie, R. (2012, January). "The implications for bond prices of changes in interest rates." Russell Investments' Practice Note.

Gannon, J. (2013, April). "Rates rise, and you lose. Right?" Russell Investments' Practice Note.

[1] This is because the value of long-duration bonds tends to be more volatile than that of short-duration bonds. This makes them less attractive to many investors: one exception to this being defined benefit pension plans, whose liabilities are similar in nature to long-duration bonds. Pension plans are therefore in the happy position of being able to invest in what is, for them, a lower-risk investment (long bonds), even though it is, for others, a higher-risk investment, and therefore tends to come with a return premium attached.

[2] Long bonds have tended to deliver higher returns than short bonds over most historical periods; equities have tended to offer higher returns than bonds; and illiquid investments have tended to offer higher returns than liquid investments. In all three cases, standard investment theory explains these higher returns in terms of a reward for taking on some form of risk.

[3] The start point of 1990 reflects data availability. Because each data point is based on the actual experience over a 12-month period, the latest data point that is included compares the forward pricing at the end of March 2015 to the actual change over the 12 months to the end of March 2016.

CONFERENCE 2016

Russell Investments

CONFERENCE 2016
OUTCOMES IN FOCUS

27 JULY 2016
HILTON HOTEL, AUCKLAND

Low interest rates. Volatile investment markets. Regulatory changes. There's never been more pressure on trustee boards. At this year's conference we will look at these challenges and what you as a fiduciary can do to achieve your investment objectives.

If you have not received an invitation and would like to attend this years conference, please email your interest to Jacqui Robertson at *jerobert@russellinvestments.com* or phone 09 357 6633.

We look forward to seeing you there.

Erik Ristuben

Is a bear market looming?

Erik Ristuben, Chief Investment Strategist

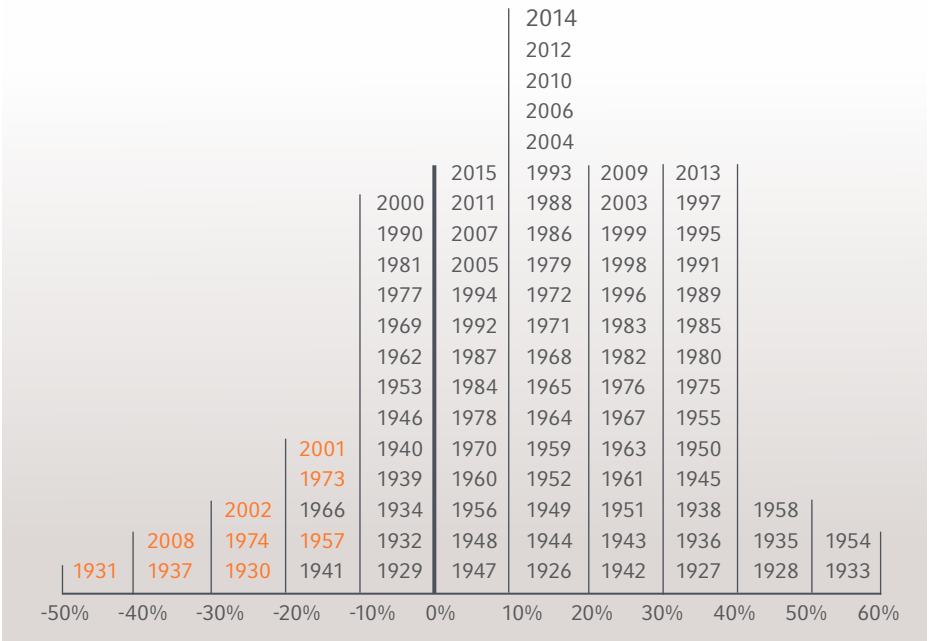
So far 2016 has proven to be an uneven year for investors, with some roller-coaster market swings that left more than a few stomachs churning. So we've heard a question from a lot of clients: "Are we headed for a bear market this year?"

We did dip briefly into near bear territory in early February, when the S&P 500® and Dow were down as much as 11%. As I write this, the S&P 500 is actually back into positive territory year to date, and markets have shown some upward momentum.

And here's the thing: For markets to dive into bear territory (down 20%) and stay there, it's almost imperative that we tip into recession or depression. Take a look at this chart:

BEAR MARKETS ARE DRIVEN BY RECESSIONS

Calendar year S&P 500® index returns
1926-2015



73% of the time, US equity market has posted calendar year returns above zero

Represented by the S&P 500® Index from 1926-2015. Index returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Indexes are unmanaged and cannot be invested in directly.

It shows calendar-year S&P 500 index returns from 1926-2015, and the rates of return. The years with the worst returns – drops of 10% or greater – almost invariably correlate to some kind of financial calamity. The exceptions are 1966, which was just a bad year for stocks, and 1941, the dawn of World War II. The very worst years (1931, 1937, 2008) correlate with the start and middle of the Great Depression, and the recent Great Recession.

So, is a recession imminent? Those who think so could point to how far we are into the current business cycle[1] – some seven years. But business cycles don't run on clocks. They run on fundamentals, such as whether there are significant imbalances in the economy – too much debt, skyrocketing wages, real estate bubbles, and the like. But right now we're not seeing much of that.

Annual economic growth in the U.S. is currently steady at 2% (as measured by U.S. GDP), which is fine but hardly red-hot. We saw more evidence of that in the March jobs report, which saw a solid gain of 215,000 jobs, while the jobless rate stayed about the same (inching up to 5%) and wage growth was modest.

Moreover, business investment hasn't been as aggressive as it was in the late 1990s, just before the dot-com bust. And households are in better shape than they were pre-2008, with less debt and somewhat more savings. Combined, all of these factors suggest to us that the U.S. economy is currently more recession-resistant than perhaps its given credit for by many people.

Now, the caveat to our conclusion is that we do see some early signs of trouble in corporate balance sheets, which are increasing the debt due to the exceedingly low interest rates of recent years. Plus, as American financier Steve Rattner pointed out in a recent New York Times column, economists don't necessarily have a great track record when it comes to forecasting sharp downturns.

Given the continued uncertainty in China, the Bank of Japan's difficulties in yanking its economy out of a deflationary spiral and Europe's mixed record of economic success, there's plenty in the world that could go wrong.

But let's say the U.S. stays out of recession for the foreseeable future. What does that mean for equity markets? Probably a lot of what we have seen over the past 18 months – some decent runs, lots of volatility, bouts of anxiety followed by cautious optimism.

Overall, we think the rest of 2016 will be an OK period for equities. Not great, but probably worth an investor's time to consider sticking around. We expect returns in the low-single digits. Not fantastic, of course. But when cash gets you a half percent return and fixed income between 2% and 3%, it's something.

In short, while anything can happen, our forecasts don't see a recession on the near horizon. Even despite further slowing in the global economy, U.S. growth and jobs increases are holding steady, as I noted earlier. Investors who show some caution and look for the right opportunities are likely to be able to navigate these choppy waters well.

[1] "Red Flag: U.S. Economy May Have Hit the Pause Button," CNN Money, April 6, 2016.

1966: A reformation in investment performance measurement

By David R. Cariño, Ph.D., Research Fellow, FTSE Russell Indexes

David R. Cariño

By the 1960s, pension funds were among the fastest growing pools of capital within the private financial sector. Reporting was often done annually, sometimes quarterly, and usually in a manner chosen by the trustee. Most plans valued assets based on original cost, ignoring unrealised capital gains. As such, it was difficult for a plan sponsor to answer the natural question, "How is the plan performing?," because there was no standard method for calculating a rate of return. Moreover, it was difficult to answer the question, "How does this fund's performance compare to that of another fund?," because the assumptions used in calculating returns varied from one fund to another.

In this context, a Columbia University doctoral student, Peter O. Dietz, found a great dissertation topic. Following a summer's research project with the National Bureau of Economic Research on the effect of pension fund investment on capital markets, he observed that there was no consistency in how funds measured their performance. His research led to the development of a method for measuring investment portfolio performance that, today, is known as *time-weighted* rate of return. His dissertation was published as a book in 1966 titled, *Pension Funds: Measuring Investment Performance*.[1]

At least three key ideas in the method are notable. First, assets are valued at market prices, to reflect their true economic values. Second, external cash flows (transfers of value into or out of the fund) are neutralised by valuing the fund at each cash flow, so that funds with varying patterns of cash flows can be reasonably compared.

Third, Dietz provided a simple formula to approximate the true time-weighted return when valuations are unavailable at the times of cash flows. This last idea, the "Dietz formula," was of crucial practical importance, given the limited data and computational resources at the time.

The method quickly caught on and was soon embraced by a group of academics commissioned by the Bank Administration Institute, who formally recommended uniform methods of measuring investment performance.[2] Subsequently, other standard-setting organisations, including the Investment Counsel Association of America, the UK's Society of Investment Analysts, the AIMR Performance Presentation Standards (PPS), and the Global Investment Performance Standards (GIPS) all recommended time-weighted return as the standard method of measuring investment fund performance.

With today's availability of daily valuation data and computing power, the idea of approximating performance may seem archaic. Further, today's analysts might not know of any other way to measure performance than by time-weighted return. The durability of the approach is evidence of the clear and pragmatic thinking of an exceptional doctoral student.

Peter Dietz became Frank Russell Company's[3] first Director of Research and served the company until his untimely death in 1990. He was, in 1966, a founding member of the Q-Group, and in 2013, the Spaulding Group inducted him into the "Performance & Risk Measurement Hall of Fame."

[1] Peter O. Dietz, Pension Funds: Measuring Investment Performance (New York: The Free Press, 1966), republished by TSG Publishing, Somerset, NJ, 2004.

[2] Kalman J. Cohen, Joel Dean, David Durand, Eugene F. Fama, Lawrence Fisher, Eli Shapiro, and James H. Lorie, Measuring Investment Performance of Pension Funds: For the Purpose of Inter-Fund Comparison (Park Ridge, IL: Bank Administration Institute, 1968).

[3] Now known as Russell Investments

Russell Investments' research from around the globe

CHINA'S PARADIGM SHIFT AND WHY I'M (STILL) CAUTIOUSLY BULLISH

Brian Ingram discusses recent Chinese government economic policy shifts and their potential short-term, as well as long-term, impact for the Chinese economy.

https://russellinvestments.com/us/insights/articles/chinas-paradigm-shift-and-why-i-m--still-cautiously-bullish

RUSSELL INVESTMENTS DECARBONIZATION STRATEGY

This paper explores three potential decarbonization strategies and recommends a path that helps balance the need for reducing carbon footprint while still preserving returns.

https://russellinvestments.com/us/insights/articles/russell-investments-decarbonization-strategy

IT'S NOT PERSONAL, IT'S BUSINESS

In this case study, Tamara Larsen discusses Russell Investments' approach and experience with implementing social impact investment for an institutional client.

https://russellinvestments.com/us/insights/articles/its-not-personal-its-business

BLOG

MULTI-ASSET INVESTING: MANY CLIENTS ASK THESE 5 QUESTIONS

Global CIO Jeff Hussey shares 5 of the best questions we hear from clients considering multi-asset investing providers.

http://blog.russell.com/multi-asset-investing-5-questions/

Russell Investments
PO Box 105 191
Auckland
09 357 6633

www.russellinvestments.com/nz