



iManual.MCA

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for MCA NZ Limited
May 2012

This manual is a collection of MCA articles that discuss the investment process generally and explain the investment markets.

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Investing a charity's assets

- a simple example

May 2012

This article looks at the investment arrangements and process for a sample charity. The numbers have been chosen to illustrate the principles, as opposed to reflect a specific case or recommendation. The principles will, however, apply to any investor where there is a requirement for a regular cash flow. A summary of the investment process is on the back page.

Background

Assume a Trust has capital of \$100. The trustees of the Trust invest the capital and wish to maximise the grants they will make to community organisations each year. This applies for the current and future generations - intergenerational fairness is important.

Each year, the Trust incurs operational costs of \$1 and looks to make grants to community organisations of \$4. Typically the actual grants in any year will vary between \$3 and \$5. The Trust also looks to grow its capital over time, to protect the level of the future grants from the effects of inflation and population growth (estimated to be 3.0% a year on average in total). The Trust therefore, needs to invest its capital to ensure liquidity of \$5 is available each year (i.e. \$4 for grants and \$1 for costs, making a return of 5%) and growth, over time, averages 3.0% p.a..

The target annual grant level of \$4 is the "optimal" level. In years when appropriate community projects are not available, it is lower. Likewise, in years when the demand and quality of applications is high, a higher level of grants is made. The Trustees also allow small variations to occur in the grant levels, to help manage the consequences of the short-term fluctuations in the asset values and returns and operate a smoothing policy to help manage the grants. However, reduced grants for reasons of short-term asset value fluctuations are undesirable.

The trustees need to determine how the \$100 capital is invested along with the appropriate investment policies, and how the grants level is managed. This involves setting an investment strategy for the objectives and responding to market events as they arise.

Investment strategy

As a rule, the starting point for trustees to determine their investment strategy is their intended cash flows for their future costs and grants (i.e. liabilities). Also important is their ability and willingness to withstand low or negative total return outcomes short-term, relative to the intended cash flows. This latter factor is often referred to as the trustees' tolerance or willingness for risk. The investment strategy will result in an allocation of the capital to cash assets, bond assets and share/property assets, that align the cash flows from the investments with the cash flows for the grants and costs. While the overall investment strategy and total return is important, the investment strategy can also be considered to allocate the capital into distinct buckets of cash, bonds and shares/property. The outcome of each bucket can therefore be evaluated independently, relative to the purpose for that bucket and together, against the objectives of the Trust as a whole. This determines the strategy's success and "success" in this context means meeting the grants each and every year.

★ Success is measured by the level of the grants and the growth of the capital.

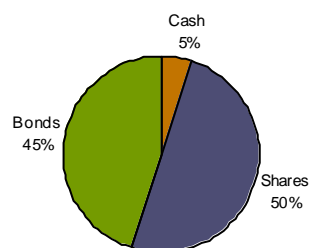
★ Short-term liquidity is required to meet costs and the intended grants.

★ Growth is required to protect the real value of assets.

★ The investment strategy can be considered to allocate the capital into buckets. Collectively they achieve success, but each bucket has its own unique purpose.

The current investment strategy adopted by the trustees for the Trust to achieve the objectives is:

	\$
Cash	5
Bonds	45
Property/shares	<u>50</u>
	100



★ The actual returns will vary around the expected and the variation may be wide.

★ The expected returns are simple guesses about the future.

Any assets (i.e. the smoothing buffer) over and above the capital base are held in cash.

Investment process

The return that the Trust achieves each year will reflect the investment strategy and what happens in the markets. The return will include the actual income from interest, coupons, dividends and rent, together with growth through market movements. Under the arrangements, each year the actual income received is paid to the cash sector. This is then used to fund the operational costs and the grants. If there is a surplus income, a decision can be made to reinvest it back into bonds, property or shares.

★ Holding some capital in cash assets avoids the need to crystallise a loss.

★ Variations will occur in both the income received and the change in asset values.

If the investment strategy is set correctly and the assets deliver returns equal to their expected returns, the resulting total return should deliver the immediate income required and the long-term growth required, and the investment policies will be successful. This will protect the capital and allow the desired distributions to be made.

In practice even if the returns are equal to those expected on average, the returns will vary year-by-year around the average and policies to manage the consequences of this variation are required.

If the actual income return is less than \$5, i.e. less than the grants and costs, either:

- The grants have to be reduced; or
- Some of the assets have to be sold to top up the income return. Ideally if there is a shortfall, it is funded from cash. If bonds, shares or property are sold and the market is down, a permanent loss is realised. Retaining part of the capital in cash avoids being forced to sell bonds, shares or property when the market is down and the income return is below the required \$5.

If the income return is above \$5:

- A higher level of grants can be made, or
- The excess is held in reserves for future grants, or
- Part of the excess return is invested in bonds or property or shares, to increase the capital and therefore the expected future returns.

Expected investment returns

In terms of the investments, the expected income return that will be received each year is

	Expected (\$)	Guess about the future	Typical range (\$)
Cash	\$0.29	5.75% p.a. on average	\$0.25 to \$0.45
Bonds	\$3.49	7.25% p.a. on average	\$2.92 to \$3.83
Property/shares	<u>\$1.75</u>	3.5% p.a. on average	<u>\$1.00 to \$2.50</u>
	\$5.53		\$4.17 to \$6.78

The expected return is the likely average return over time and the “typical range” reflects the likely variation around the average that will be experienced. The \$5.53, \$4.17 and \$6.78 compare to the required income of \$5.

The income return is only part of the picture. The value of the assets, particularly shares, will also fluctuate. The change in the values of the investments is expected to generate market movements of:

	Expected (\$)	Guess about the future	Typical range (\$)
Cash	\$0.00		\$0.00
Bonds	\$0.00		-\$2.00 to +\$2.00
Property/shares	<u>\$2.75</u>	5.5% p.a. on average	<u>-\$7.00 to \$12.50</u>
	\$2.75		-\$9.00 to \$14.50

On average, the change in the market value is expected to result in the assets trend upwards at 2.75% a year but fluctuate around this level and the year-on-year fluctuations will be significant (-9% to +14.5%). This raises a few questions. When the value goes down, should the investor top up the allocation to shares to maintain the overall investment strategy at \$50 (i.e. 50%), or should they wait patiently for the markets to go back up by themselves? Likewise, when it goes up by more than expected, should the investor sell some to take the profit, or ignore it, knowing that it is just a natural fluctuation around the average?

Expected annual outcome

If the markets perform to the level they are expected to on average, then, after 1 year the position is:

		Actual		Ideal	
		Assets	Strategy	Assets	Strategy
Cash	$\$5 + \$5.54 - \$4.0 - \$1 =$	\$5.53	5.3%	\$5.16	5.0%
Bonds		\$45.00	43.6%	\$46.48	45.0%
Property/shares	$\$50 + \$2.75 =$	<u>\$52.75</u>	<u>51.1%</u>	<u>\$51.64</u>	<u>50.0%</u>
		\$103.28	100.0%	\$103.28	100.0%

The above highlights that in a “normal” year (i.e. a year where the return is equal to the average), the Trust will end up with more cash and property/shares than it requires, and less bonds. It will therefore look to sell shares to buy bonds. It may also look to transfer some of the cash to bonds, to maintain the overall investment strategy equal to the benchmark. It is also noted that the end assets of \$103.28 is

above the inflation adjusted target of \$103.00 (i.e. $\$100 + 3.0\%$). There is therefore a small margin for error, but it is small in the context of the potential variation.

But not all years will be normal. In fact few years, if any, will be. In some years, the market movement will be at the bottom of the range and in some years at the high end of the range but mostly somewhere in between. The extreme outcomes are:

		Income low	Income high
Growth high	Cash	\$4.17 (3.7%)	\$6.78 (5.8%)
	Bonds	\$47.00 (41.3%)	\$47.00 (40.4%)
	Shares	\$62.50 (55.0%)	\$62.50 (53.8%)
		<u>\$113.67</u>	<u>\$116.28</u>
Growth low	Cash	\$4.17 (4.6%)	\$6.78 (7.4%)
	Bonds	\$43.00 (47.7%)	\$43.00 (46.3%)
	Shares	\$43.00 (47.7%)	\$43.00 (45.3%)
		<u>\$90.17</u>	<u>\$92.78</u>

The above shows that with what are normal market fluctuations around the average, the end-of-year position will vary widely. There will also be a few years when the growth is outside the ranges indicated. Therefore, several investment policy questions arise. What should be the trustees' policy position when:

- The total income return is less than the target of \$5?
- The market movement of shares is above average?
- The market movement of shares is below average?
- The market movement of bonds is above or below average?

Also, what happens if the guesses about the future prove to be too optimistic?

Reduced income return

The Trust has target expenditure each year of \$5m. On average, the investment strategy and the returns of the markets are expected to produce such income, plus a small margin. In reality, the income is expected to vary between \$4.17 and \$6.78. No specific problems arise if a particular year is above average. The excess can be held in reserve for a future below average year, or reinvested to boost the capital - a decision simply needs to be made. The important question is what happens to grants when the actual income generated is nearer the \$4.17? In part, this also depends on what happens to the growth return; is it above or below average? As the growth return is expected to be in the range -\$9.00 to \$14.50, different actions should occur if it is below \$2.75 versus above \$2.75.

	Share market movement		
	Down	Neutral	Up
Income return more than \$5	Allocate excess income to top up the shares	Keep excess in cash and hold in reserves	Sell shares to maintain the benchmark strategy

If the actual income return is below the expected level, which it will be in about half of the years, the Trustees need to supplement the income to enable the target distributions to be made, or cut the distributions. In this case, the starting position is for the cash assets to be used to fund the shortfall and the trustees to work out how to then top up the cash assets. If the actual income was at the lower end of the range (i.e. at \$4.17) the shortfall is \$0.83. At this level the cash assets could meet the shortfall for several years without causing any embarrassment. This gives the trustees plenty of time to sell other assets (e.g. shares) to top up the cash holdings and to give the shares an opportunity to rise. The presence of cash (and bonds) means that the trustees can wait for the growth return to be above average before they sell the shares.

	Share market movement		
	Down	Neutral	Up
Income return less than \$5	Fund grant shortfall out of cash and wait patiently for shares to recover	Sell shares down to 50% of "target capital" to top up cash	Sell shares to top up income

The trustees, in an extreme case, could also consider lowering the grants by \$0.5, or even \$1.0, but this should be avoided if possible.

★ Profits should be taken when shares are up.

If the income was low but the capital movement was as expected, the position at the end of the year is:

		Actual	Target	
Cash	$5 + 4.17 - 5.0 =$	\$4.17	\$5.15	5%
Bonds		\$45.00	\$46.35	45%
Property/shares		<u>\$52.75</u>	<u>\$51.50</u>	50%
		\$101.92	\$103.00	

★ Patience should be shown when shares are down.

In this case, some shares could be sold to top up the cash and bonds. However, there will still be a shortage in the total assets relative to the fully inflation adjusted position. Therefore, the trustees should probably not sell the shares down below the target level (i.e. \$51.50) as this is what is needed to stay on track to achieve the long-term average growth. This will mean, after the sale, that the allocation to shares is 50% of the target capital, but 50.5% of the actual. It is however the dollar level that is more important than the percentage and the trustees should always consider both.

★ Market movements in bonds should be ignored unless current cash returns are higher than bond returns.

Market movements of shares above average

If the market movement of shares is above average, then the trustees' policy is to realise the additional profit and hold it in cash (or bonds) in reserve for future distributions.

This reflects the principle that share markets rise and fall and if no action is taken when the market rises, particularly above its normal level, the additional market movement will be lost for the use by the Trust when the markets return to their fair value. It is better to take the extra as a windfall gain and hold it safe in cash, even if it is then reinvested when the markets fall back to their normal level.

Market movements of shares below average

If the market movement of shares is below average, which it will be half the time, it will normally mean that the remaining allocation to shares is now below its target level. The question is whether cash/bonds should be sold and used to top up the shares back to the expected level.

In most cases, the answer is no, but the decision should depend on the level of the total assets relative to the target inflation adjusted level. If the level of cash/bond assets is above the theoretical target level on the basis that the capital was fully inflation proofed, the answer may be yes.

If cash/bonds are sold, then for the immediate future, the income return will reduce placing more pressure on the cash levels should there be a bad year. Bonds and cash should therefore only be sold to top up shares if, after the sale, there remains sufficient cash and bonds at least equal to the target level to generate income and to be able to cope with a continuation of the bad period.

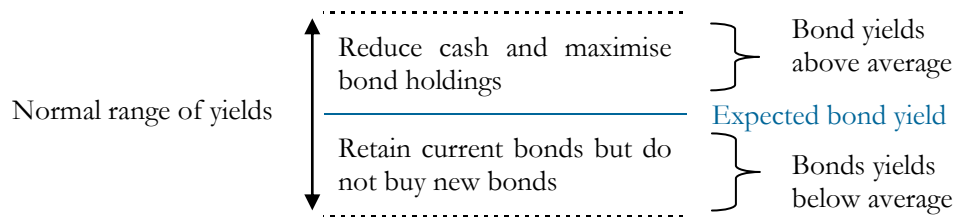
Market movements of bonds

Like shares, the value of the bonds goes up and down around the average but doesn't trend up or down. The value goes up when yields fall and goes down when yields rise. These are normally short-term events. However, unlike shares, ultimately the yield returns to normal and the bond values return to their nominal value.

Therefore, any short-term gain or loss experienced with a bond, automatically reduces to nil as the bond approaches maturity. For this reason, there is an argument for doing nothing, when bond values have fallen, because yields have fallen. The main exception is when the yields have fallen and are below the average expected bond yield level and are below the rates of return on cash.

If, when yields have fallen and the market value has risen, the profit is taken (i.e. bonds sold down) the proceeds have to be reinvested. If they are invested in similar bonds, they are invested at the same lower yields they were sold for and the resulting income returns will be proportionally lower – nothing is gained. It therefore only makes sense to sell down the bonds when the expected return from cash is higher than bonds and will be for a period, or if bonds of a different duration have higher yields and can be bought. Therefore, when bond yields are low, it normally makes sense to maintain the current bonds, but recognise that it does not make sense to buy new bonds until yields have risen.

If the market movement of bonds is negative, this means that yields have risen. There is therefore an advantage in buying more bonds at the higher yields particularly if the yields are above their expected average. Therefore, when bond yields are high, it makes sense to reduce cash levels to the lowest level that will not jeopardise the grant making over the immediate 2 to 3 years, should the markets have a sustained period of below average returns, and invest the excess cash in higher yielding bonds.



Assumptions too optimistic

If the above policies are adopted, there is minimal investment risk in making grants at the optimal level, even when the share markets are down. The real risk therefore, is that the assumptions or guesses about future returns are too high. If this is the case, it will not be known for many years.

If the income return is \$4.17, the question arises as to whether this is normal and part of a typical pattern of returns that will average \$5.53, or is it because \$5.53 was too optimistic and the expected return should have been lower? Even if the return the next year is above \$5.53, it is still not known.

The answer is unknown and will only emerge over time. Trustees therefore need to be cautious in years when the return is below average in one year, until it is clear that it is normal market volatility. A cautious approach might result in a small reduction in the budgeted grants and could also result in a cautious approach to rebalancing from lower risk assets to higher risk assets, but it should not result in a dramatic cut in grant levels.

Also relevant is the expected growth return. Should this assumption prove to be optimistic, the capital may not be fully protected against the effects of inflation. However, it will take several years for this to emerge because of the wide year-by-year fluctuations expected.

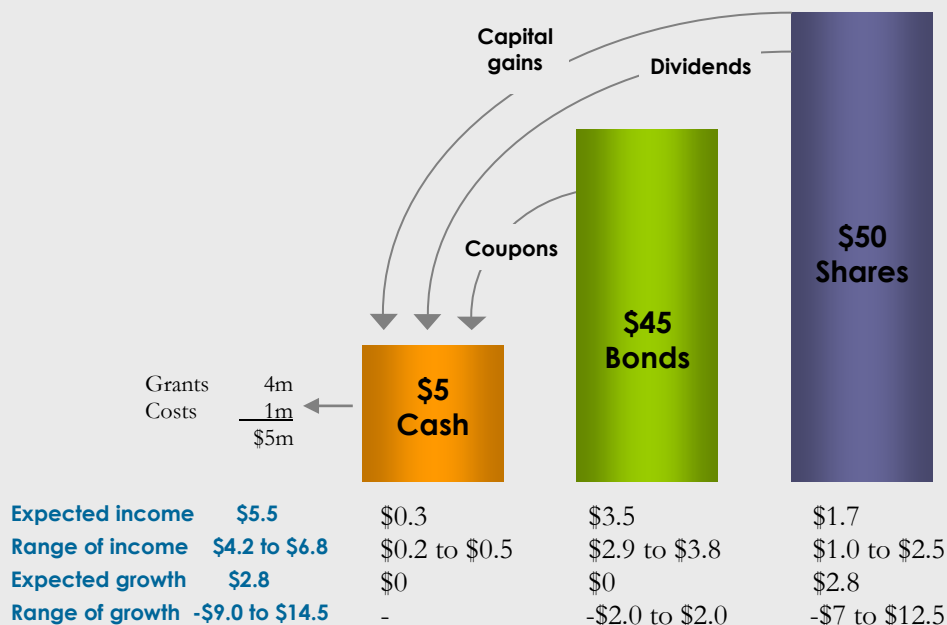
If the growth assumption proves to be too optimistic, ultimately grant levels have to be reduced and part of the income reinvested, so that the capital value can be maintained in real terms. Any reduction however, need only occur over time as the need for protecting the capital is a medium to long term objective and not a short term requirement.

A summary of the sample investment process is:

The \$100 assets can be considered to be in three buckets; cash, bonds and shares. Each year the dividends from the shares and the coupons from bonds go to the cash bucket, along with the interests earned on the cash itself. The grants and costs, i.e. all payments, come out of the cash bucket.

When cash gets too high – above 5% of the capital base, it is available to rebalance the shares and bonds. When it gets too low, opportunities are taken to realise bonds and shares, as appropriate, to top up the cash.

Separate to the income return received, the shares will go up and down. When the shares are up, they are sold to top up the cash/bonds to keep the overall strategy in balance. When shares are down, they are held until they recover. Auto rebalancing away from shares applies when shares are up. Auto rebalancing to shares, only applies when the total assets are up more than the target capital level and only then if the excess is not held in reserve for future grants. Lastly, the \$3.5 growth from shares, on average, equates to overall growth of 3.5% required. When this emerges, it provides the capital protection required. There is no requirement for it to be received each and every year.



Successful investment outcomes don't just happen. They occur when an investor invests their capital in a way that targets the achievement of their needs (and in some cases their wants). They are planned, as opposed to being left to chance. Therefore understanding what the needs are and how they can be achieved by combining the alternative investments available, is very important.

Investing requires decisions to be made on the appropriate investment strategy (i.e. the mix of cash, bonds, property and shares), how the strategy will be implemented (by buying assets directly in the market, or via products like managed funds) and how it will be maintained and modified over time. The purpose for investing (i.e. achieving the needs) should govern each of these decisions.

Needs

Most investors have a combination of three needs:

1. A need for **liquidity**
2. A need for **income**
3. A need for **inflation protection** or **growth**

Each of these can be in conflict with the others and the relative importance of each to an investor will change over time. The capital available to be invested should be allocated in a way to achieve the required balance of each. Not all investments need to be liquid or generate immediate income or long-term growth. It is often best to think of the investment strategy as three separate pools of capital, that are then combined and managed as one, if together they create synergies.

Liquidity

To meet the liquidity need, an investor will allocate part of their capital to highly marketable assets, particularly cash and short dated fixed interest investments. While shares can be liquid, shares also experience a high level of volatility and so are generally poorly suited to meet an investor's liquidity needs. Liquidity needs typically require a high level of certainty and safety. You would therefore expect to see a focus on cash assets, for the investment of the capital allocated to meet the liquidity need.

Income

Investors have a need for income to meet their future expenditure. Income may be needed for the immediate future, and/or over the medium term, and/or over the long term. This income will come from the interest on cash assets, the coupons on bonds, the maturity proceeds of bonds, the rental income from property and the dividend income from shares. Income can also come from the sale proceeds of property and shares, though this comes with a higher level of volatility and is a less certainty source of income.

For the immediate and medium term income needs, the focus is more likely to be on cash and bond investments, particularly bonds. The longer term income is more likely to come from the rent and dividends from property and shares, but also from some bonds.

Inflation protection

Because prices can go up, investors will have a need for protection against the consequences of inflation and/or may be simply looking to grow the capital.

An investor can protect their capital against the impact of inflation in two main ways. They can retain some of the income return and reinvest it for the future, or they can expose themselves to investments that increase in value over time, particularly where the increase in value has some correlation to the rise in inflation. Normally the second option is adopted, except where the investor is short-term risk averse.

Inflation protection therefore typically comes from an exposure to real assets like property and shares, but may also come from commodities, infrastructure and precious metals, particularly where the inflation is fuelled by poor government fiscal policies and not natural supply/demand and imbalances.

Investment strategy

An investor allocates their capital first to achieve each of the three goals. Then for each goal, the appropriate combination of cash, bonds, property and shares is chosen. The investment strategy of the investor is the overall resulting mix of cash, bonds, property and shares. This is reflected in the matrix.

Goal	Total capital	Investment strategy matrix		
		Cash	Bonds	Property/shares
Liquidity	\$	\$	\$	\$
Income	\$	\$	\$	\$
Inflation	\$	\$	\$	\$
Total	\$	\$	\$	\$
	Strategy	%	%	%

Except where an investor needs to place significant emphasis on liquidity or inflation protection, because of their personal circumstances, you would expect there to be a correlation between the timing of the income needed by the investor (i.e. to match the expenditure of the investor) and the types of assets held. This link would be along the lines of:

Income for the expenditure needs in the next:	Type of asset
0 to 3 years	Cash
3 to 10 years	Bonds
10 years plus	Property/shares

The above is not an exact science, but forms a good basis for the initial allocation of capital between the different types of assets. The resulting mix of assets should then be adjusted to reflect the personal preferences of the investor, to achieve higher/lower returns and the willingness of the investor to be exposed to more/less short-term volatility.

When investing to achieve the needs of an investor, the:

- liabilities and investment needs, drive the theoretical investment strategy
- individual preferences then fine tune the actual investment strategy.

One important question trustees of a granting organisation face is: “what is the sustainable level of grants that can be made over the long-term.” This depends directly on the investment return, the level of operational costs and the goal for the growth in the level of the grants.

From an investment point of view, assuming that the goal is to inflation proof the grants, the sustainable level equates to the long-term average real-investment-return less the operational costs. The real return is the return after investment manager costs and after inflation.

Also of relevance, will be the likely variations in the return there will be over the short-term. It is also important to develop policies to manage the impact of these variations on the level of grants.

While long-term, it is the average real-return that is the driver of the grants level. Over the short-term, it is the makeup of this return and in particular the actual income portion, relative to the grants level, that is important. Given that the investment markets will do what they always do, each of these components depend on the investment strategy i.e. the mix of cash, bonds, property and shares and how the strategy is implemented.

Historical returns (1900 to 2010)¹

History (the last 111 years) provides an insight into what would have been sustainable through the range of economic and political scenarios that have been experienced. Given a large enough sample size, the past is the best director of the future.

Over the long-term, the average real return from global sharemarkets has been 5.5% p.a. Making up this global average, individual countries experienced real return(s) ranging from 2.0% p.a. (Italy) to 7.4% p.a. (Australia) at the extremes, but most fell within the 3.6% p.a. to 6.3% p.a. range. New Zealand was 5.9% p.a.. Countries with material government welfare intervention policies tended to be at the lower end and those with “free” markets at the higher end. Details of the individual countries are in table 1 on page 6.

In contrast, the returns from global bonds and cash averaged 1.8% and 1.0% respectively, in real terms. Again, individual countries varied around these averages.

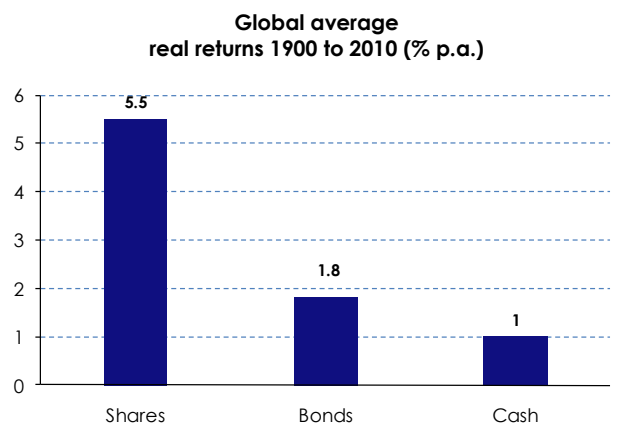
The average return that an individual investor will have received depended upon the investor’s investment strategy (mix of cash, bonds, property and shares). Applying a 5:45:50 cash:bonds:shares strategy, to the observed returns, gives a long-term real return of approximately 3.61%.

History suggests that the long-term average real return for an investor with a “balanced” strategy is approximately 4.29% p.a. plus inflation.

Therefore, based on history, a long-term granting policy that targets grants of 4.29% of assets each year (including operating costs) is expected to be sustainable.

The return each year will not be 4.29%. History suggests it will typically range from -10% to 20%. Therefore, 4.29% is only sustainable if there are appropriate cash flow and risk management policies, to cope with the inevitable periods of poor returns.

A higher granting level requires luck, above average skill, or a greater allocation to shares and property.



¹ Last 111 years from 1900 to 2010, source: Global Investment Returns Year Book 2011 published by Credit Suisse in conjunction with the London Business School.

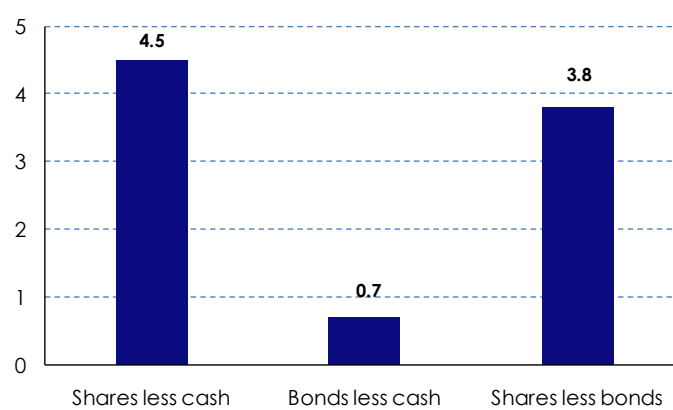
This 3.61% assumes that the bonds are government bonds. In practice, the investors will typically include investment grade corporate bonds. If the historical credit premiums are added for corporate bonds, the expected real return has been approximately 4.29% p.a.

An alternative to using the absolute historical returns is to apply the observed risk premiums to the current actual or expected cash return. The risk premium of each of the different asset classes is the return received above the cash return (or bonds).

Over the 111 year period, the equity risk premium, relative to cash, was 4.5% p.a. and relative to bonds it was 3.8% p.a. The variation of the average equity premium relative to bonds was in the range of 2.1% p.a. to 5.9% p.a.

Our current expectation for cash is that the gross average real return in New Zealand will be approximately 3.25% p.a. This is higher than the current level and higher than the experience over the last 110 years (1.7% p.a.). It reflects the current monetary policies. It also reflects that investment returns in NZ, for most investors, are taxable and investors require a “fair” net-of-tax real return. In contrast, globally, investment returns are generally tax-free as long-term savings are typically tax-advantaged. This leads to a higher interest rate structure in NZ. Applying the risk premiums to the expected cash return given.

**Global risk premiums relative to cash and bonds
1900 to 2010 (% p.a.)**



Expected returns

	Shares	Bonds ²	Cash
Long-term expected inflation	2.50%	2.50%	2.50%
Expected real return	<u>3.25%</u>	<u>3.25%</u>	<u>3.25%</u>
NZ cash returns	5.75%	5.75%	5.75%
Duration premium for bonds	<u>0.75%</u>	<u>0.75%</u>	<u>0.00%</u>
	6.50%	6.50%	5.75%
Expected equity/corporate risk ² premium	<u>3.50%</u>	<u>1.25%</u>	<u>0.00%</u>
	10.00%	7.75%	5.75%
Tax slippage	<u>1.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Expected average absolute return	9.00%	7.75%	5.75%
Inflation (assessment)	<u>2.50%</u>	<u>2.50%</u>	<u>2.50%</u>
Expected real return	6.50%	5.25%	3.25%
Historical real return (NZ)	5.90%	3.25%	1.70%

Based on the 5:45:50 strategy and the above expected returns, the expected long-term average return is 8.28% or 5.78% p.a. real, at inflation of 2.50% p.a. This is 1.49% p.a. above the historically observed 4.29% p.a.

² based on a A/BBB grade portfolio

If the 5.75% assumption about the cash starting point is incorrect and the average future NZ cash return is equal to 4.2% (i.e. 2.5% expected inflation plus the 1.7% observed long-term real return), the expected average future real-return of the strategy is not 5.78% but the 4.29% p.a. observed. However, if 4.2% is the correct average future cash return, the current 2011 cash rates should be considered “normal” and not low. If this is the case, there will be future periods when interest rates are a lot lower than what is perceived as already being low today. The implication is that New Zealand will have periods similar to what Japan and the US are experiencing today.

The above are long-term averages. Also relevant is the range of averages over shorter sub-periods. This can be illustrated by the use of historical US data. The following information looks at the US and covers the period 1871 to 2010. Over this period of time, we note:

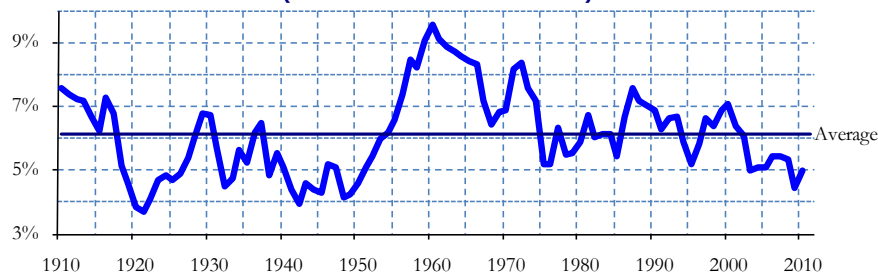
Total period		% p.a.		
Average absolute return		8.70%		
Average inflation		<u>2.08%</u>		
Average real return		6.48% (Note: not additive)		
Sub-periods		% p.a.		
	10 year periods	30 year periods	40 year periods	
Average real return	6.08%	6.19%	6.13%	
Range of average real returns	-5.33% to 18.11%	2.41% to 9.85%	3.70% to 9.57%	
Typical range of real returns	1.28% to 10.96%	4.49% to 7.88%	4.79% to 7.47%	

Source: R Shiller database Yale University.

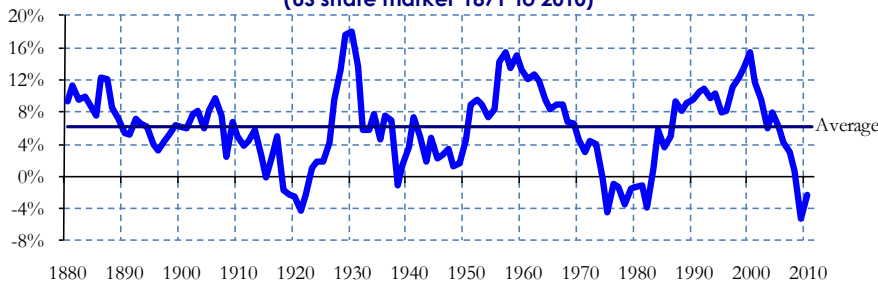
The graph shows the moving 40 year average real returns. It highlights that the 40 year average returns vary materially but generally oscillate $\pm 2\%$ around the long-term average. Also, it highlights that there is no current trend to indicate that the return over the next 40 years (2011 to 2050) will be anything other than consistent with the long-term pattern and fall between 4% and 9% p.a.. But for many investors, ten years reflects a common perception of “long-term”.

The average real returns over 10 year periods were, as would be expected, more volatile than the 40 year period returns. In particular, we note that the last 10 year period has been well below the long-term average but not statistically unusual, relative to the period ending in 1922 and periods ending 1975 to 1982.

**Moving 40 year average real return (% pa)
(US share market 1871 to 2010)**

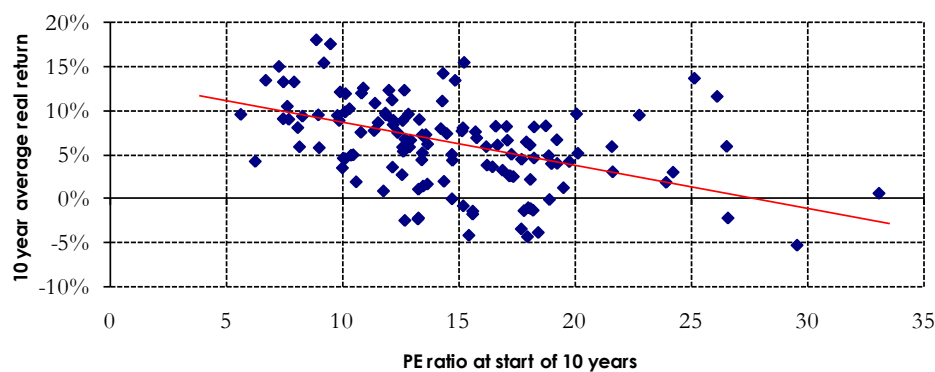


**Moving 10 year average real return (% pa)
(US share market 1871 to 2010)**



While we are confident that the average over the next 140 years will be at a similar level to the last 140 years, the shorter returns (e.g. the next ten years) could be materially higher or lower. But there is no reason to believe that the average real return will not be in the -5.3% to +18.11% range. Where it will lie within this range depends in part on future government policy and economic conditions, and in part the current state of the sharemarket. Remember, this is the real return and not the absolute return.

Some argue that shares are currently cheap and, with a belief that they will return to the average value, will do better in the next ten years. The graph below plots the average return for the subsequent ten year period against the PE ratio³ at the start of the period. It highlights that when PEs are low, the subsequent average return varies, but is generally higher than normal.



The historical PE ratios for US equities are:



Source: Forsyth Barr

The above two graphs imply that while the next 10 years (2011 to 2020) may be higher or lower than average, history implies that it is more likely to be higher, as the PE ratio is currently outside, and below, the normal observed range.

³ A PE ratio is the price earnings ratio i.e. the current share price divided by the current earnings of the company. This is an indication of relative value.

History

This article is based on history and has all the limitations of history. It can be argued that any particular period of history is not relevant or indicative of what will happen in the future. This is because the history may have been a period dominated by:

- inflation being high or low
- a world war or structural change
- government controls
- a depression or series of economic recessions
- PE (price/earnings) ratios were high at the start and low at the end, or vice versa and therefore subsequent returns were artificially inflated or depressed.

However, history as a whole captures the experience of a range of different environments (some positive and some negative) that reflect the potential scenarios that will be experienced in the future. Accordingly, history is an indication of the future average experience, and the likely variations around the average, but not the outcomes for a particular period. Therefore, any reliance on historical returns must come with a health warning about the past not reflecting the future. However, in our view, the general patterns and observations of the past will reflect the patterns and observations for the future. What the past cannot do, is tell us what the return will be for a particular future period or a particular country. We do not expect the US market will necessarily behave as well as it has, but in a diversified portfolio one of the countries probably will.

It should also be recognised that while history is good for illustrating long-term average share returns and economic growth, it is less relevant for cash and bond returns. Both these are driven by short-term and period specific factors and influenced by the government policy of the day. For example, the average return over the next ten years for New Zealand bonds is best indicated by the current ten year yield (5.6% at 1 April 2011) for bonds and not the long-term average (5.8%). 5.8% is probably a better estimate of the average return over the next 100 years.

Other observations

It should be recognised that history shows that, over the long-term, a 10% increase in the allocation to shares increases the long-term return by 0.37% p.a. [$10\% \times (5.5\% - 1.8\%)$]. It also increases the volatility of returns (by about 0.73%). Therefore, if investors looked to increase the future return by allocating 10% more to shares, in a bad year, the total absolute return could be 1.5% lower than would otherwise be the case. This is only an issue if there is not sufficient cash and income to fund grants in that year. It is up to trustees to determine whether the risk warrants the additional return in the current environment, given the granting objectives and fiduciary responsibilities.

At a return differential of 0.37% p.a., it also highlights the importance of low fees. Keeping fees and costs low, is similar to taking on the risks of a strategy with 10% more in shares.

In this article, where a strategy is used to calculate an overall return, we have used a 5% cash, 45% bonds, 50% shares strategy referred to as 5:45:50.

Table 1. Average real investment returns for calendar years 1900 to 2010

	Shares	Bonds	Cash	Equity risk premium	Bond risk premium	Equity over bonds
Australia	7.4	1.4	0.7	6.7	0.8	5.9
Belgium	2.5	- 0.1	- 0.3	2.9	0.3	2.6
Canada	5.8	2.1	1.6	4.2	0.4	3.8
Denmark	5.9	3.0	2.3	2.8	0.8	2.0
Finland	5.4	- 0.2	- 0.5	5.9	0.3	5.6
France	3.1	- 0.1	- 2.8	6.0	2.8	3.2
Germany	3.1	- 1.9	- 2.4	5.9	0.5	5.4
Ireland	3.8	0.9	0.7	3.0	0.1	2.9
Italy	2.0	- 1.7	- 3.6	5.8	2.1	3.7
Japan	3.8	- 1.1	- 1.9	5.9	0.9	5.0
Netherlands	5.0	1.4	0.7	4.2	0.7	3.5
New Zealand	5.9	2.0	1.7	4.1	0.3	3.8
Norway	4.2	1.7	1.2	3.0	0.5	2.5
South Africa	7.3	1.8	1.0	6.2	0.7	5.5
Spain	3.8	1.3	0.3	3.2	0.9	2.3
Sweden	6.3	2.4	1.9	4.3	0.5	3.8
Switzerland	4.2	2.1	0.8	3.4	1.3	2.1
UK	5.3	1.4	1.0	4.3	0.4	3.9
US	6.3	1.8	1.0	5.3	0.9	4.4
Average	4.7	1.0	0.1	4.6	0.8	3.8
Standard deviation	1.5	1.4	1.6	1.3	0.6	1.2
World	5.5	1.8	1.0	4.5	0.7	3.8
World ex US	5.0	1.2	1.0	4.0	0.2	3.8
Europe	4.8	0.8	1.0	3.9	0.1	3.8

Source: Credit Suisse Global Investment Returns Year Book 2011.
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In most fiduciary situations investors, whether trustees or an organisation's manager, must invest assets in accordance with the provisions of the Trustee Act 1956. This places a level of responsibility on the investor that is different to that which they apply for their own personal assets. The relevant provisions are discussed below.

Trustee Act

The Trustee Amendment Act 1988 (the Trustee Act) introduced the concept of the "Prudent Person Rule" for the investment of trust funds which placed upon trustees the requirement that:

13.B Subject to sections 13.C and 13.D of this act a trustee shall exercise the care, diligence, and skill that a prudent person of business would exercise in managing the affairs of others.

Section 13.C provides that where the trustee is a professional trustee or in the business of investing, an appropriate higher standard of care is required. The actual wording is:

13.C Subject to section 13.D of this Act, where a trustee's profession, employment, or business is or includes acting as a trustee or investing money on behalf of others, the trustee, in exercising any power of investment, shall exercise the care, diligence, and skill that a prudent person engaged in that profession, employment, or business would exercise in managing the affairs of others.

The reference to section 13.D has little relevant to investors unless there is specific rules in the governing trust documentation that they must follow.

Prudent Person Rule

The definition of prudence set out in a NZ Law Society seminar in 1988 was:

"Prudence is a test of conduct and not performance. Neither the overall performance of the portfolio, nor the performance of individual investments should be viewed as central to the inquiry. Prudence should be measured primarily by the process through which the investment strategies and tactics are developed, adopted, implemented and monitored. Prudence is demonstrated by the process through which risk is managed, rather than by the labelling of specific investment risks as either prudent or imprudent.

If the test of prudence is to be found in the process by which investment choice is exercised, it follows that documents must be kept to record that process for future use in the event of challenge. Careful documentation of all relevant factors bearing on the decision should be observed."

The responsibilities imposed upon investors with fiduciary responsibilities by the Trustee Act give rise to two key issues. First, investors should, as part of their investment process, have a written statement of investment policies and objectives (Sipo). Second, investors should implement a process so that ongoing investment decisions, are made in accordance with the framework of the Sipo and, are fully documented.

- **Prudence is a test of conduct and not performance.**
- **Investments should be consistent with the needs and liabilities of the fund, in terms of income, growth, timeframe and risk considerations.**
- **Trustees should have a written statement of investment policies and objectives (Sipo).**
- **All decisions should be fully documented**

Investment considerations

Section 13.E of the Trustee Act sets out guidelines to be considered by investors in exercising their investment powers. The guidelines are by no means exclusive or exhaustive. However, the listed guidelines should be viewed as mandatory considerations and investors should always, as a minimum, evaluate their relevance to their fund. The investment considerations are set out at the end.

The Section 13.E considerations relate to ensuring that the overall investments are consistent with the needs and liabilities of the fund given size, time-frame and cash-flow requirements, and tax considerations. Managing the overall "risk" in terms of diversification, and the probability of capital loss, is also important. The same issues relate to the appropriateness of each individual investment though the individual investment should be looked at within the context of the other investments and the overall materiality. The considerations lead to the need to identify income and growth requirements for the fund.

Sections 13.M (c) and (d) of the Trustee Act are also relevant. These sections document that the Courts, in considering whether or not an investor has breached the Prudent Person Rule, may take into account:

- (c) Whether the trust investments have been diversified, so far as is appropriate to the circumstances of the trust, and
- (d) Whether the investment was made pursuant to any investment strategy formulated in accordance with the duty referred to in paragraph (a) or paragraph (b) of this section, as may be applicable.

Paragraphs (a) and (b) are not relevant to many investors where specific requirements are not set out in the governing documentation.

Check list for investors

1. Address each of the Section 13.E "considerations" and determine their relevance.
2. Prepare a written statement of investment policies and objectives (Sipo).
3. Document every investment decision in the context of the Sipo.
4. Monitor the performance relative to the objectives set.
5. Review the Sipo and revisit the "considerations" on a regular basis.

Section 13.E - considerations

Issues for consideration by investors are set out in section 13.E (a) to (l).

- (a) the desirability of diversifying trust investments
- (b) the nature of existing trust investments and other trust property
- (c) the need to maintain the real value of the capital or income of the trust
- (d) the risk of capital loss or depreciation
- (e) the potential for capital appreciation
- (f) the likely income return
- (g) the length of the term of the proposed investment
- (h) the probable duration of the trust
- (i) the marketability of the proposed investment during, and on the determination of, the term of the proposed investment
- (j) the aggregate value of the trust estate
- (k) the effect of the proposed investment in relation to the tax liability of the trust
- (l) the likelihood of inflation affecting the value of the proposed investment or other trust property

"Would you tell me, please, which way I ought to go from here?"
 "That depends a good deal on where you want to get to," said the Cat.
 "I don't much care where ~" said Alice.
 "Then it doesn't matter which way you go," said the Cat.

Achieving successful investment outcomes requires a clear understanding of exactly what it is, that is trying to be achieved. In this context, "successful investment outcomes" means receiving the income return required at the level and at the times required, while balancing the growth return required and the capital protection needs of the investor. Successful investing therefore, requires a process focussed on achieving these outcomes.

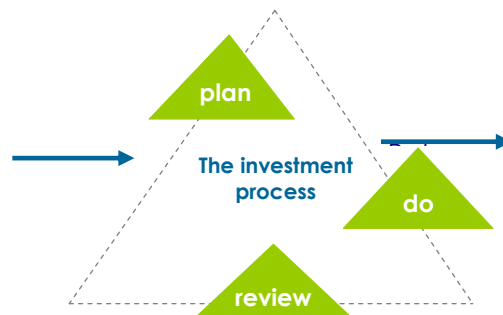
This article focuses on developing the concept of the investment process to provide a logical framework to achieve successful outcomes. Investment jargon used is defined at the end.

In the beginning . . .

The investment process stems from prudence and the fiduciary responsibilities of the investor. While a lot has been written on the subject of fiduciary responsibilities, and the prudent person test, the key requirements simply come down to "sensible behaviour" as it is about investing other people's money. On this basis what is important is the "process" by which investment decisions are developed, adopted, implemented and then reviewed. The need for evidence of conduct, suggests that the process is documented.

The successful investment of assets requires:

- a clear understanding of the goals and the development of strategies to achieve the goals (**Plan**),
- the successful implementation of the plan (**Do**), and
- the continual monitoring to refine the process to ensure ongoing success (**Review**).

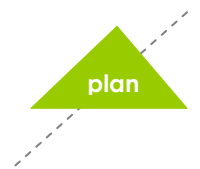


However, planning is only part of the process. Investors also have to implement their decisions and monitor and fine tune the outcomes - *"The best plan with no action is only a good dream."* The investment process therefore, can be viewed as a three-stage cycle (plan – review – do).

The three stages are looked at in more detail below.

In terms of the planning phase, there are three intended outcomes:

- the determination of the appropriate investment strategy and prudential guidelines.
- the determination of the appropriate manager structure and type of manager(s) suitable, together with identifying how the manager(s) will be evaluated.
- the determination of the reporting requirements and how the investment arrangements will be implemented and reassessed on a continuous basis.



Each of these is looked at below and from a “best practice” perspective should be documented in a written statement of investment policies, often referred to as a Sipo. In addition the written statement should consider and document issues such as liquidity needs, tax, nature of the liabilities, objectives and risk.

The old adage "a stitch in time saves nine" is equally applicable to the investment process. The more detailed the preparation and the determination of what is, and what is not, important for a successful investment outcome, the more likely it will be that the actual results will achieve the expectations with minimal surprises.

Investment strategy and prudential guidelines

In terms of determining the appropriate long-term investment strategy the key inputs are the nature of the liabilities, the objectives or purpose of the assets, and the current financial resources.

These will determine the type of investments that are appropriate to ensure that the liabilities (e.g. payments) are met when due and that either the payments are maximised (within predetermined risk constraints) or, the costs are minimised. Other considerations include liquidity requirements, restrictions from existing investments and tax. Typically consideration of these will determine the benchmark strategy and prudential ranges for shorter term asset allocation decision. In addition, to the prudential ranges investors should develop prudential guidelines.

These set out rules on issues such as maximum exposures to any one asset, borrowing, attitudes to stock lending and use of derivatives, etc.

Manager structure and style

Once the objectives, strategy and prudential guidelines have been determined the next question is "should an investment manager be used and, if yes, what type and how many?" Deciding to use an investment manager(s) should not be a foregone conclusion. In some cases self-investment with some professional guidance will be the optimum solution. However, in most cases the appointment of an investment manager will make sense.

In determining the manager structure and type of managers the following areas have to be addressed:

- Should the investments be on a passive or active basis?
- In terms of the passive and active management decision, should it be in respect of asset allocation and/or security selection within each sector?
- Should a single manager be used or multiple managers?
- Should "balanced" (i.e. multiple sector) managers and/or specialist (i.e. single sector focused) managers be used?
- In terms of multiple managers, should assets be allocated based on a manager's particular strengths or should different managers have similar mandates?

At the end of the day, the decisions in most of the above areas will be governed by the size of the fund and what makes sense from a practical and not theoretical viewpoint. This must also take into account the alternatives available in the market place.

If it is decided to use an investment manager(s) the process to select and evaluate the manager on an ongoing basis needs to be documented. The evaluation criteria should form part of the investment policy statement (Sipo).

Reporting requirements

At the planning stage the initial reporting requirements should also be determined. In addition to the normal investment reporting (i.e. strategy, performance, outlook, etc.) the accounting and financial information required by the administrator, auditor, adviser should also be agreed and documented.

Stage I of the planning cycle documents the strategy, the ideal manager structure and the reporting requirements. Stage II puts these into practice and achieves results. The key part is manager selection. In addition to selecting the right manager(s), appropriate custody arrangements must be put in place and the investment management contract must be drawn up, agreed and executed.

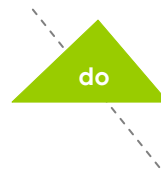
It is then up to the manager(s) to perform.

As part of the planning phase performance expectations and prudential guidelines will have been set. On a regular basis therefore, whether or not the overall process is working (i.e. is the manager doing what he or she was employed to do) needs to be assessed. Likewise, the objectives and strategies need to be confirmed as still being appropriate? Other questions include; Have the investment markets changed? Have the liabilities, liquidity requirements etc. changed?

In looking at the outcome relative to the goals, what is more important than the simple issue of success or failure, is the question of why the manager acted the way he or she did. If circumstances repeated themselves, would the manager make the same decision? How much was down to good fortune?

The review stage is not just about looking at performance. The issue of determining how the investment policy statement should be refined for the future is equally important.

The successful investment of assets requires detailed prior thought and research into what is required, how it will be achieved and how it will be monitored so that the decisions can be continually improved. Only then will fiduciary responsibilities be met and successful income, growth and capital protection objectives be met.



Investment terminology

Asset allocation	the allocation of the total assets either between different investment sectors (e.g. property, bonds, share, cash, etc.) or between different countries/regions. In terms of the asset allocation, there is the “strategic” or long-term holding and the “tactical” or short-term strategy around the strategic holding.
Stock selection	the selection of the individual investments or securities within a particular sector.
Active management	an investment process that looks to enhance the return by active changes to the asset allocation and/or stock selection decisions to take account of the perceived investment outlook for individual securities or asset sectors.
Passive management	an investment process that manages the asset allocation and/or stock selection strictly in accordance with the benchmark such that the return achieved equals the market return. No day-to-day asset allocation and/or stock selection decisions are made.
Sipo	the acronym for the written Statement of Investment Policies and Objectives.
Balanced managers	managers who invest across more than one asset sector and normally make active asset allocation decisions i.e. which asset classes will be better in the immediate future.
Specialist managers	managers who focus on a single asset class e.g. shares or bonds but not both.
Risk	there are many different types of risk. Normally it is a measure of the probability of something happening that the investor cannot afford to happen.

In many cases, it is measured by the variations of return around the average and therefore assesses the likelihood that the value of the assets are below average, at a future point in time, and the extent that they may be below average.

Investment policy decisions required

October 2009

When developing or reviewing investment arrangements certain decisions are required in terms of the investment process and in establishing investment policies. The main areas where decisions are required relate to:

Investment objectives

- what absolute return (split by income & growth) is required?
- what level of certainty of return is required?
- what level of relative return (e.g. relative to inflation) is required?
- over what time-frame(s) should the objectives be achieved?

Investment reserves

- what reserving policy will be implemented?

Investment strategy

- which sectors should the assets be invested in?
- what level of liquidity is required to meet immediate liabilities?
- what should the long-term strategic benchmark allocation be?
- should active tactical asset allocation be implemented and at what level?
- currency:
 - what should the strategic policy position on currency management be?
 - should currency exposures be actively managed?
- what prudential guidelines are appropriate?

Manager structure

- what manager options are available and practical
- what manager structure should be used?
 - single or multiple managers?
 - balanced (i.e. multi-sector) or specialist managers?
- what manager style or bias is preferred?

Implementation

- pooled vehicles or individual portfolio management?
- should individual stock selection be managed actively or passively? Separate decisions are required for each sector.
- how will managers/products be selected?

Other issues

- are the overall arrangements cost and tax effective?
- if applicable, how will the tax liability be determined, managed and paid?

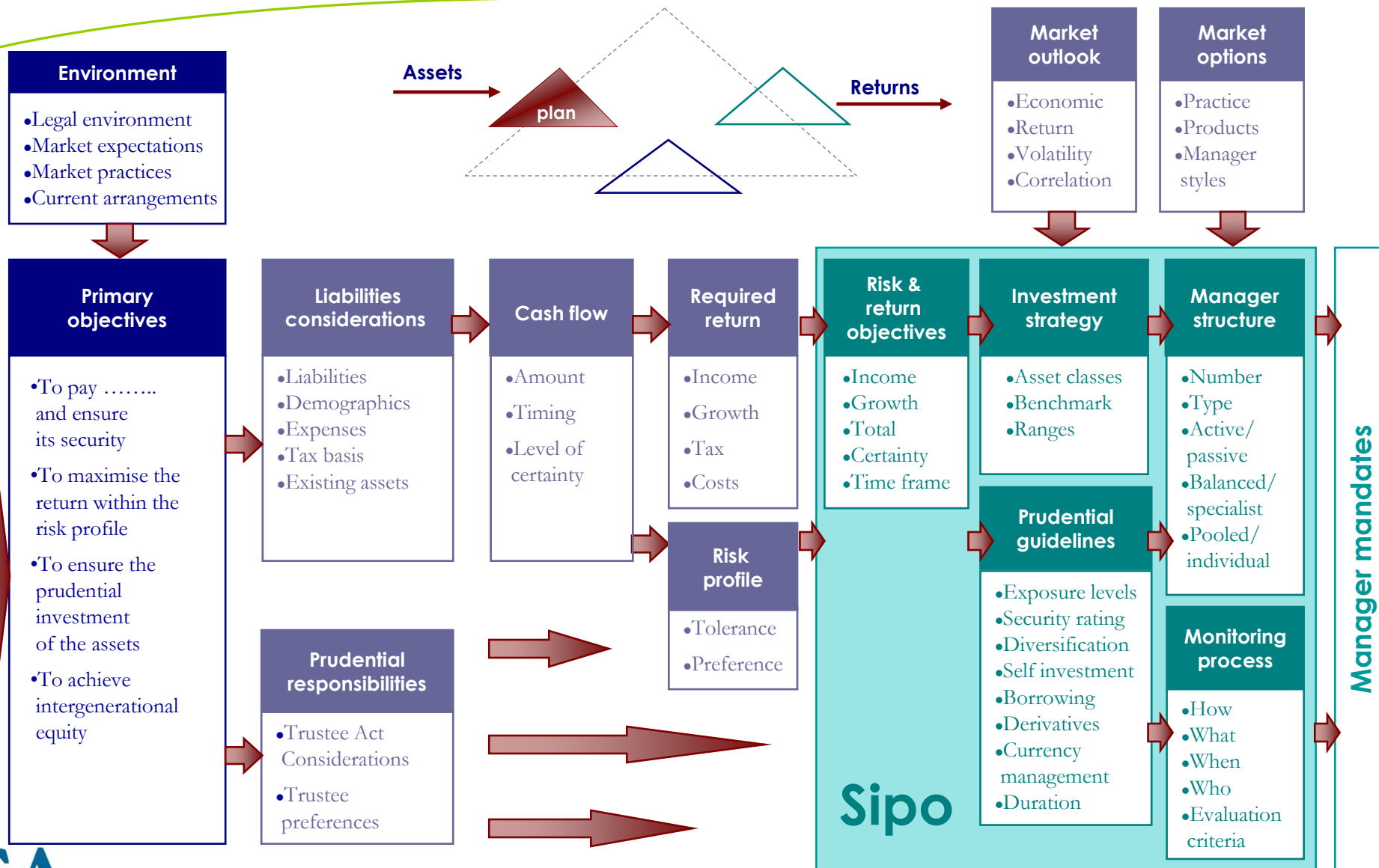
Ongoing monitoring

- what performance criteria and benchmarking is appropriate?
- what reporting and monitoring procedures will be put in place?
- how and when will the investment policies be reviewed?
- how and when will managers be reviewed?
- what role should a consultant have?

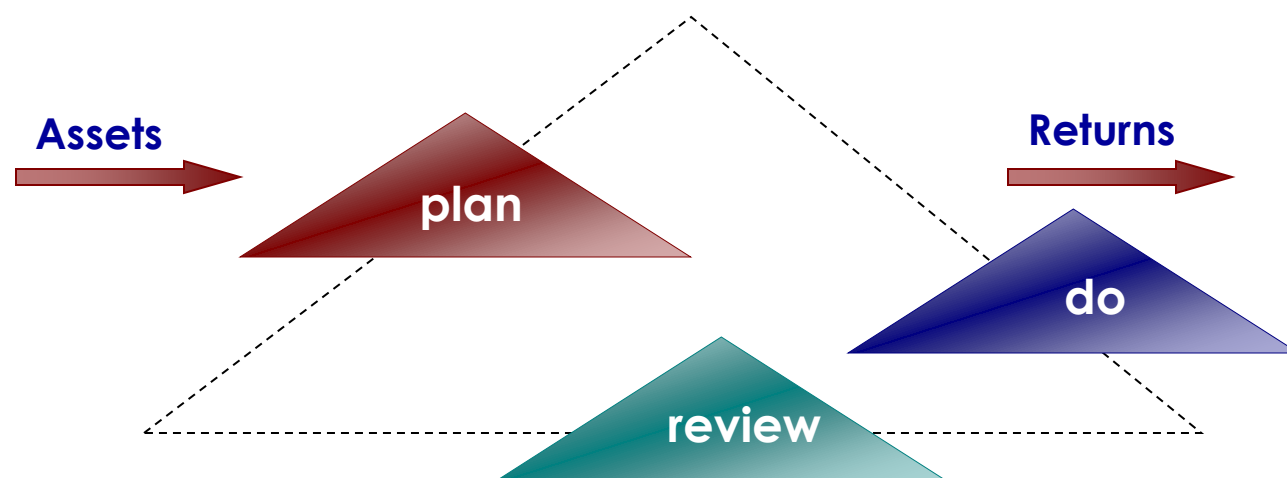
While each of the above areas is important, some are consequential and others have less impact on the success or otherwise of the investment policies in terms of the long-term return. In all cases the decisions have to be practical in the context of the environment. Of the areas noted, the key areas of principle that investors should form a view on, as opposed to leaving it up to the default position of the manager, are:

- the long-term investment objectives;
- the strategic benchmark strategy;
- the active or passive tactical asset allocation;
- the active or passive currency management;
- the active or passive stock selection;
- the manager/product structure;
- the review process.

Investment process - planning



The investment process.MCA



Investment considerations

When making investment decisions consider:

- the **desirability of diversifying** trust investments
- the nature of **existing trust investments** and other trust property
- the need to **maintain the real value** of the capital or income of the trust
- the **risk of capital loss** or depreciation
- the **potential for capital appreciation**
- the likely **income return**
- the length of the **term of the proposed investment**
- the probable **duration of the trust**
- the **marketability** of the proposed investment during, and on the determination of, the term of the proposed investment
- the **aggregate value of the trust** estate
- the effect of the proposed investment in relation to the **tax** liability of the trust
- the likelihood of **inflation** affecting the value of the proposed investment or other trust property.

Source: Section 13.E, Trustee Act 1956

Until the 1988 amendment to the Trustee Act 1956, the legislation set out investment requirements in detail and investors had one simple objective within the rules; to "maximise the return while minimising the risk". By coincidence, this was the "philosophy" of many managers at the time. Investors liked the "maximise return" aspect and took comfort from the fact that the manager was aware of "risk", whatever that meant. The focus was on promised outcome and not on process.

The 1988 amendment saw the introduction of the prudent person rule. As a result, the common approach of handing money over to a manager and letting it do what it thought best in isolation, was no longer acceptable. The time had come for greater control over the decision process that produced the returns and greater definition to the investment process overall. Statements of investment policies and objectives (Sipo's) were born.

This article looks briefly at the make-up of a Sipo.

In developing or reviewing a Sipo, it must be remembered that Sipo's have evolved significantly in the two decades since their birth, and the thought process behind them has changed over recent years as investors, managers and consultants alike have gained experience.

What is an investment policy statement (Sipo)?

A "Sipo" establishes the principles and guidelines that investors, who have a fiduciary responsibility, will take into account when making decisions in relation to the investment of assets.

It documents the investment goals, both long and short term, and the procedures will be followed when investing the assets. In short, it captures what the investor is wanting to achieve, how the objectives will be achieved, and how progress towards the objectives will be evaluated along the way? A Sipo brings together the components of the investment process, between the purpose of the investment and the eventual return.

Investment policies are not new. In practice, all investors with fiduciary responsibilities have them and have always had them. As a minimum they will be set out in various minutes, correspondence and discussions with the manager, and by past practices. A Sipo goes one step further and pulls all this information together and puts it in one central document.

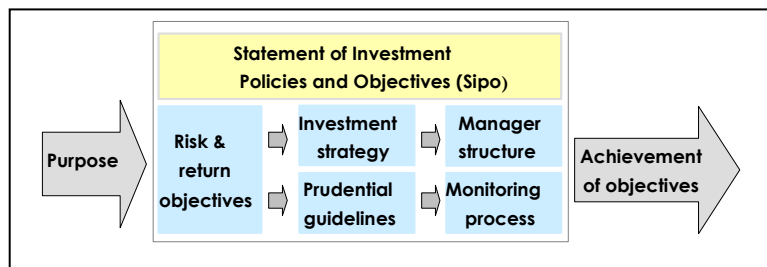
Why have a Sipo?

A formal statement of investment policies and objectives is not compulsory in New Zealand. As a Sipo is not specifically required by law, why have one?

The key reason is that a written statement of investment policies and objectives is "best practice", and not having one opens the investor to higher risks because of uncertainty of objectives. In terms of the "prudent person rule", it is accepted that prudence is measured by conduct, not performance; by process not outcome. A policy statement therefore reflects good conduct. It makes sense to establish clear guidelines on investment issues and to write them down to ensure that there can be no misunderstanding of what is required by the managers, and how they will be achieved.

Developing an investment policy statement

The chart below highlights the various components of a Sipo.



In developing an investment policy statement, the first step is to determine the **risk and return objectives**. From these flow the **investment strategy** designed to achieve the returns and into the **prudential guidelines** that document acceptable and unacceptable investment behaviour.

Having determined the strategy and the rules, it is then important to determine how it will be implemented (**manager structure**) and how it will be **monitored** and evaluated. Once this is done managers can be appointed and the returns achieved.

Risk and return objectives

Developing risk and return objectives is easier said than done. They need to be written in plain English and:

- detail the returns required to ensure that the liabilities and purpose are met, and
- document the level of "risk" that the investor is willing and able to take in the process of achieving the required return.

To establish the required return, investors need to consider issues such as the purpose of the assets, their primary objectives, the beneficiary demographics, tax implications, cash flow requirements and liabilities, etc. Out of these will come the required long-term return in terms of income and growth and the level of short-term certainty acceptable.

For most long-term investors, return objectives will typically be related to "real" returns after any tax and expenses. After tax and expenses as this is the actual return the investor receives, and real because of the long-term nature of the liabilities and the need to maintain value over time. The definition of real will vary and may be by reference to price inflation, wage inflation, GDP growth, population growth etc.

Return objectives may also, particularly over the shorter term, relate to absolute or bank deposit returns to control downside risk. While gross returns can be considered, there is little point in getting a high gross return, if it is eroded away by tax and fees.

Typically the risk objectives will be a measure of the required certainty of the return, relative to a time frame.

A sample risk and return objective is:

Return	Risk
To achieve a real return, after tax and expenses, over the long term above 4% p.a. such that...	...over the shorter term (e.g. over every 3 years) and with 90% confidence, a positive return is achieved (i.e. in 9 three-year periods out of 10).

The above objective is structured to set out the long-term requirements (4% p.a. real) within the short-term minimum requirement (0% p.a.). Clearly, the 4% margin, the 3 years and the 90% confidence level can be changed to suit particular circumstances. Also, by interchanging real returns, absolute returns or risk-free returns, the requirements of most investors can be accommodated within the sample framework. It is normally worthwhile setting an objective on the actual level of income required each year.

A common mistake in setting the return objectives is to interchange the return requirements to meet the assets liabilities with the criteria used to evaluate the manager. While it is appropriate to evaluate the manager against its peer group, e.g. by being in the top 50% of like managers, it is unusual for this to be the crucial risk and return objective overall. Peer group analysis is more appropriate as part of the monitoring or evaluation process or for an organisation offering a retail investment product.

Investment strategy

The investment strategy flows from the risk and return objectives. The investment strategy sets out details of the different types of investments, e.g. shares, bonds etc., the neutral or long-term strategic benchmark exposure to each type of investment and/or the ranges of exposures that are acceptable for each type of investment for short-term tactical asset allocation. The strategic benchmark exposure is the strategy that is expected to achieve, over the required time frame, the return objective within the risk constraint. These days computer modelling techniques let the risk/return characteristics of a particular strategy to be simulated to allow trustees to identify what strategy is optimal for them.

Prudential guidelines

The prudential guidelines provide a further level of definition to the day-to-day management of the investments. Typically, they will set out rules for the maximum exposure to particular investments, minimum credit risks for fixed interest assets, whether or not unlisted shares are permitted, the policy on derivatives, self-investment, etc. They provide a framework for manager to work within to add value and which the investor feels comfortable with in terms of delegating authority. They ensure that the investor's normal prudential expectations are met.

Investment management structure

In implementing an investment strategy it is often desirable to appoint an investment manager or managers. In appointing an investment manager(s) and given the investment strategy and issues such as the size, investors need to determine:

- the number and type of managers that will be used;
- whether balanced, (i.e. multi-sector), managers or specialist (single sector) managers will be used;
- whether active and/or passive management will be used at the sector and/or strategy levels;
- whether it is better to be in a pooled product or to be managed on an individual basis.

In determining the manager structure, issues of efficiency and costs become crucial. Costs relate to not only the manager's costs but also consultant's fees, accounting/audit fees, transaction costs etc..

Monitoring process

The Sipo should detail how progress will be monitored and how issues such as the manager's performance will be evaluated. The key issues are how, what, when and by whom? Investors should look at all measures of performance and assess both the performance relative to its risk and return objectives as well as the manager's performance.

The manager's performance should be evaluated relative to the risk and return objectives as well as the manager's mandate and market benchmarks, i.e. value added, peer group performance, risk-free returns, etc. In some respects, this aspect of the monitoring process is the subject of long discussions with the manager. Managers like a single measure and feel threatened if there is more than one as the monitoring process determines whether or not they will retain the business. This is in conflict with the investors' objectives which is looking to assess how well they went and how well they should have gone, and in many cases is equally subjective and objective.

Regular review

Documenting clear objectives and policies is best practice and part of the total quality management cycle but is only half the picture. To be effective, a Sipo needs to be kept up-to-date and relevant. Sipo's should be updated for changes to the investors' objectives, the markets and experience gained etc.. It is important that they are subjected to regular and rigorous review – only then will it lead to successful investment outcomes.

Investment strategies

- a general discussion

October 2009

In its simplest form, an investment strategy is a statement as to how the return objectives of an investor will be achieved. The return objectives are those that relate to the required short and the long-term income and growth levels, along with a level of certainty, to enable the investor to meet its wider purposes.

The investment strategy combines the major asset classes of cash, bonds, property and shares, to give the required income/growth outcomes, and determines the diversification levels between NZ and overseas, along with currency exposures.

From a liability perspective, the investment strategy establishes the balance between achieving immediate income, to meet immediate liabilities, with long-term growth to protect the longer-term liabilities against the effects of inflation, and to build the assets.

The long-term investment strategy, often referred to as a “benchmark”, is normally defined as a percentage allocation between income focused assets (bonds and cash) and growth orientated assets (shares and property). This can be by way of broad allocations to sector groups (e.g. 55% growth: 45% income) or by a specific allocation to each individual sector (e.g. 45% shares, 10% property etc.). With either approach, the investor must also decide how the assets are moved around within each asset class and relative to the other asset classes.

In developing an investment strategy, investors are optimising the allocation of their capital between the different types of assets (sectors) and determining how the actual allocation will be invested around the optimal “ideal”. Risk must also be considered.

The concept of risk

An accepted principle of investment is:

"the higher the expected long-term return, the more volatile the investment returns are likely to be over short-term periods"

To maximise the total returns over the long-term, investors must accept that the total return over the immediate term (e.g. 1 year) can, and will, vary considerably. If investors require less variability in their short-term total returns, they must compromise by accepting reduced long-term average returns.

Therefore in determining the investment strategy, investors are trading off between the potential quantum and the certainty of the returns. However, variability of returns is not necessarily inappropriate when the payoff is higher long-term returns provided that, the variability does not lead to a return that is unacceptably low, or does not produce the required level of short-term income. In this context the strategy must be viewed and developed relative to any reserving or smoothing policy and the investor's tolerance for risk.

The investment strategy is normally developed via optimisation techniques consistent with “modern portfolio theory”. This will model the pattern of the returns of the different sectors, with the pattern of the liability cash flows. It allows a strategy to be identified with the highest probability of achieving each of the investment objectives and for the characteristics and risks of a strategy to be determined under various scenarios.



Like any tool, optimisation follows the principle of gigo (garbage in – garbage out). It is therefore important to understand the return patterns of the different assets classes under different economic scenarios and in the context of the liabilities.

Table 2 and graphs on the next page show the expected risk/return characteristics of a series of strategies using the output of iModel.MCA. The assumptions behind the model reflect “consensus” views for the future combined with actual volatilities and correlations from the past. In each case the expected returns and risks are shown.

Reality check

Having developed the investment strategy from a theoretical point of view, it should be tested relative to a broad brush approach along the lines of the method below. This provides a useful check.

- first, provide for the unexpected, i.e. a "rainy day" by allocating a level (e.g. x% of assets) to the cash sector;
- second, allocate the remaining assets by reference to the expected timing of the payment of the liabilities as per table 1.

Table 1

to meet the cash flow needs in the next . . .	invest in . . .
0 to 3 years:	cash
2 to 10 years:	bonds
7 years plus:	shares, property

Table 2

Strategy	0	10	20	30	40	50	60	70	80	90	100
% in growth assets	0	10	20	30	40	50	60	70	80	90	100
% in income assets	100	90	80	70	60	50	40	30	20	10	0
Expected return (%p.a.)	4.3%	5.1%	5.7%	6.2%	6.7%	7.3%	7.8%	8.4%	8.9%	9.5%	10.1%
Expected volatility (%)	3.2%	4.0%	4.6%	5.5%	6.7%	8.0%	9.3%	10.7%	12.1%	13.5%	15.0%
Expected minimum returns (90% probability) over:	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.
1 year	0.3%	0.0%	-0.2%	-0.9%	-1.8%	-2.9%	-4.1%	-5.3%	-6.6%	-7.9%	-9.2%
3 years	2.1%	2.3%	2.5%	2.4%	2.2%	1.9%	1.6%	1.2%	0.8%	0.4%	0.0%
5 years	2.7%	3.2%	3.5%	3.6%	3.6%	3.6%	3.6%	3.5%	3.5%	3.4%	3.4%
10 years	3.4%	4.0%	4.5%	4.8%	5.1%	5.4%	5.7%	6.1%	6.4%	6.7%	7.2%
15 years	3.7%	4.4%	4.9%	5.4%	5.8%	6.2%	6.7%	7.1%	7.6%	8.1%	8.6%
20 years	3.9%	4.6%	5.2%	5.7%	6.2%	6.7%	7.2%	7.7%	8.2%	8.7%	9.3%
Probability of a negative return over:											
1 year	8.7%	10.2%	10.9%	13.1%	15.6%	18.0%	20.0%	21.7%	23.1%	24.2%	25.1%
3 years	0.7%	1.0%	1.2%	1.9%	3.1%	4.4%	5.7%	7.0%	8.2%	9.2%	10.0%
5 years	Low	Low	Low	Low	0.5%	0.9%	1.4%	1.9%	2.5%	3.0%	3.4%
10 years	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
15 years	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
20 years	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Notes: 1 The above returns are before expenses but after-tax. Tax is provided for on income and where appropriate on capital movement.											

Source : iModel.MCA 1.1.2000

Investment returns

- a general discussion

October 2009

Most investors are familiar with shares going up and down, but many do not realise that almost all investments (including fixed interest and property) behave in this way. The exception is cash. To understand an investment, requires an understanding of the likely source of the return, what will influence the level of the return and the pattern of returns that will be received.

The overall or total investment return of any investment, achieved in a period, can be split between:

- **Income.** The actual income received, i.e., interest, dividends, rental income, etc.;
- **Capital.** The change in the "capital" or "market" value of the asset, i.e., the difference between what you could buy/sell the asset for at the start of the period, against what you can buy/sell the asset for at the end of the period.

In each case the income may fluctuate and the market value may go up and down daily, weekly, monthly, etc. However, when evaluating an investment, what is really important, is the income received and the change in the market value over the period the investment is intended to be held. The current market value is only important when you have to sell the investment. Until that time, short-term changes might result in sleepless nights, but is really only of academic interest.

This article looks at the make-up of investment returns of the different investment sectors, and looks at issues such as why rising interest rates may lead to poor or negative investment returns from bonds. It also profiles the risk/return characteristics of the main asset classes and the historical returns.

Return characteristics

To understand the principles and the dynamics of investment returns it is easiest to consider an example. Suppose you buy an asset with a market value of \$100 paying a return of \$5 per annum. Over the first year, you receive income of \$5, and if its market value (the price you could then sell it for) rises to \$107 you receive a total return of \$12 or 12% (\$5 from "income" and \$7 from "capital").

If in the following year, the market value fell from \$107 to \$101 then the total return in that year would be - \$1, i.e. \$5 income less \$6 "capital" loss.

Over the two-year period the investment therefore returned in total \$11 (\$10 income, \$1 capital) i.e. \$5.50 per annum on average, but ranged from -\$1 to +\$12 on a year by year basis. The income return however, was \$5 each year.

If you are happy with steady income (\$5 p.a.) and modest growth (\$1), over a two year period, the sample investment is fine. However if you want modest income and higher growth or a positive total return each year, the sample investment may not be suitable.

As can be seen from the example the return over any period of an investment is made up of income received, and capital value changes. The purpose of an investment strategy is to combine the different types of assets to align the income and capital movement of the different assets to your objectives. In determining your investment strategy, the key questions therefore are what income and variation of growth do you want over the whole period, and what minimum level of income and growth is acceptable or tolerable during the intervening periods.

The important characteristics of investments are therefore; "what income will be generated?" and "how will the market value change?". From a liability point of view, also important is "how long will the investment be held?". Income may be needed for immediate cash flow requirements. Capital growth to generate higher capital values so that higher income can be achieved in subsequent periods may also be important.

Given adequate cash flow, what happens in the intervening period is less important, though, if you are required to report to members or the public on an interim basis, you need to be aware of the likely movements over the shorter-term.

The paragraphs below look at each of the main investment sectors.

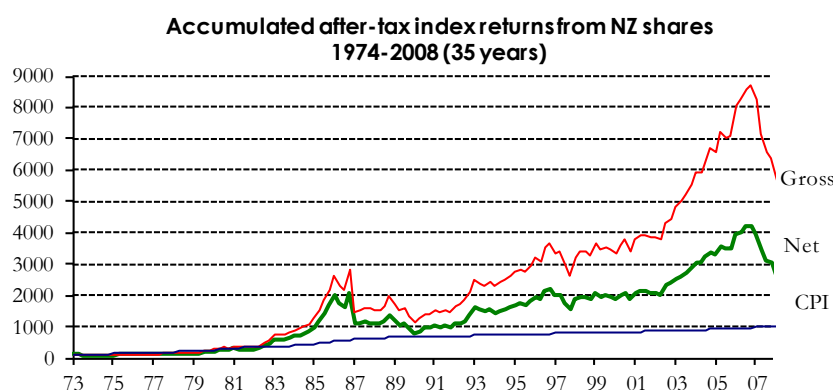
Shares

For shares, the "income" is the dividend paid to shareholders, and the change in "capital" value is the change in the price of the shares as quoted on the sharemarket.

When the share price goes up, an investor does well, as the investor gets both the dividend and the growth in capital. When the share price goes down, the dividend is still paid but the investor suffers the short-term capital loss, which may be more or less than the dividend. If the share is sold, the capital movement is then realised.

Over time, history has shown that sharemarkets go up more often than they go down, but over the short-term a sharemarket can go down significantly.

The graph below shows the growth in the New Zealand sharemarket over the last 35 years. While it has generally gone up, the graph shows that over short periods, for example 1987, 1989/90 and, to a lesser extent, 1994, the sharemarket has gone down, together with the recent 2007/08 period. Over longer periods, e.g., 5 years, the returns have been less volatile but can still go down. Over 10-year periods the sharemarket has, to date, always gone up. This is why shares are considered a good long-term investment and a "risky" short-term investment.



The historical returns from NZ shares and the equivalent information for the overseas share markets are shown on page 5. For overseas shares, in addition to the movement in the underlying share price, movements in currency also impacts on the "capital" return.

Property

For property, the "income" is the rental income less the costs incurred such as maintenance, rates and insurance. As with shares, the capital component is the change in market value. However, unlike shares, the value of a property at any point in time, is more subjective and is generally set by the judgement of a registered valuer, as property is not easily or frequently sold and few properties are similar.

For this reason, and also due to the nature of property, returns from this sector tend to appear less volatile than those from shares, though negative returns still occur and when they do occur, may continue for several years. Details of the historical returns from the property sector are set out on page 5.

Bonds (fixed interest)

Most investors think of fixed interest investments, i.e., bonds, as being like a bank savings account or term deposit. The investor's money is invested, interest income is received and at the end of the fixed term the original money is returned. While this is true, it does not explain the actual overall return on a year by year basis. The return on bonds, like other investments, is made up of the interest received and the capital movement.

Like a share, the capital movement is the change in the price for which you can buy/sell the asset. In cases such as short-term bank deposits there is no change in the market value as you can simply withdraw your money. In other cases, particularly where the term is longer than 6 months, this is not the case. To sell the fixed interest asset you must find a buyer, and the buyer may want a higher (or lower) return than you wanted when you made the investment and therefore may be willing to pay less (or more) than you did.

So, why do rising interest rates lead to poor returns from bonds? Put simply, if interest rates rise, buyers will pay you less for the bond than you originally paid as they can get higher returns elsewhere.

To demonstrate this, consider an example of a bond with one year to go issued by the Government (say). The numbers in the example have been rounded for ease of illustration; in reality the actual returns would vary slightly. The Government promises to pay the owner of the bond, whoever that is, an income of \$5 per annum for one year and at the end of the year to pay back the capital of \$100.

If you bought the bond, then in one year's time you would receive \$105 (\$5 income plus \$100 capital). The question is, what should you pay for the bond today?

Let us assume that you could invest money in a bank account to earn 4% p.a. over one year. Then, if you invested \$101 in a bank account, the balance in the bank account in one year's time would be \$105 (\$4 income plus the original \$101) which is the same amount as you would get from the bond. Therefore, a fair price for the bond, i.e., its market value, if one year interest rates are 4% is \$101. It would be better to put your money in the bank than to pay more than \$101. It would be better to buy the bond if the price was less than \$101 as the return would be higher than 4% as you still get \$105 in one year's time irrespective of what you pay to buy it.

Suppose instead that you could get 7% interest in a one year bank account. Then \$98 deposited in the bank account would give approximately \$105 in one year's time, i.e., \$7 interest plus your original \$98. In this case the market value of the bond, i.e., the maximum price you would pay, is only \$98 and not \$100, otherwise you would do better by putting your money in the bank.

The example shows that as interest rates rise, e.g., go from 4% to 7%, the market value of a bond falls (i.e. \$101 down to \$98) and this leads to a "capital" loss. For example if interest rates were 4% and you bought the bond at \$101 and then interest rates suddenly rose to 7%, your bond will only be worth \$98 (a \$3 loss). If you had to sell it, you would realise the loss of \$3. Of course, despite what happens to interest rates, if you hold the bond for the year (i.e. until maturity), you get the \$3 back as you still get the \$105.

If interest rates rise significantly or the term is long, e.g. 10 years, then the capital loss may be more than the interest income otherwise payable (i.e. greater than \$5 in the example). This is how fixed-interest assets can give poor or negative returns.

When it comes to bonds what is important is understanding the relationship between price and yield (i.e. return). For a particular bond as the price goes up (i.e. it becomes more expensive) the resulting yield goes down. Likewise as interest rates (i.e. yields) go up, the price goes down giving a capital loss.

When a bond is	The price is	The yield is
Expensive	Higher	Lower
Normal	Normal	Normal
Cheap	Lower	Higher

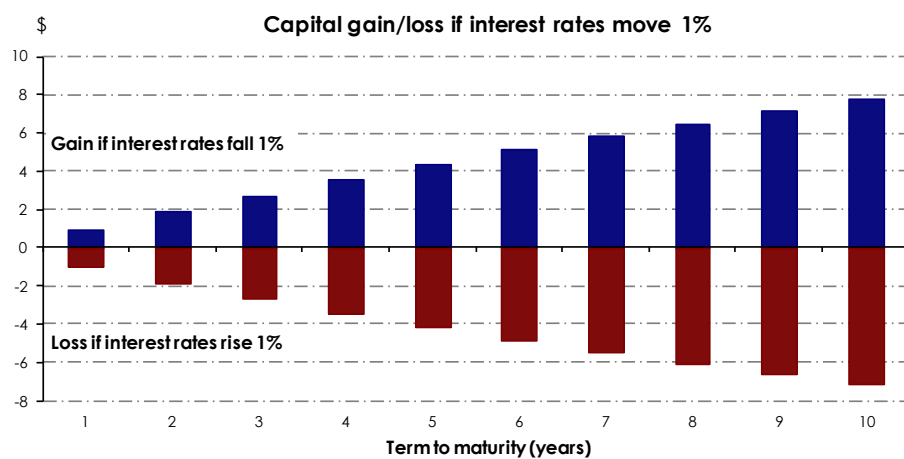
The size of the capital loss/gain is not only affected by the change in interest rate but also the duration or length of the investment. The longer the period the bigger the loss or gain. This is seen from a simple example. If interest rates rise by 2% say, then for a 5 year bond the capital value or price must go down so the future return (or yield) becomes 2%p.a. higher for 5 years. For a 10 year bond it must go down more as it has to provide for the 2%p.a. higher return for 10 years.

The graph below shows the relationship between the change in interest rates and the market value of a bond which pays a fixed income of \$6 p.a. at various durations if interest rates move $\pm 1\%$. As can be seen, if interest rates rise from 6%, say, to 7% then the market value of a 5 year investment goes down by approximately \$4 e.g. from \$100 to \$96. For a 10 year investment the capital loss is \$7.1 i.e. 7.1%.

However, when interest rates are falling the reverse is true. If interest rates fall from 6% to 5% you would get a capital gain of \$4 for a 5 years bond and \$8 for a 10 year bond as the price, i.e., market value, moves from \$100 to \$108.

The above looks at returns from New Zealand bonds. International bonds operate on the same basis, but with the added issue of currency movements. However, the risks associated with currency movements can be minimised by hedging.

On page 5, details of the historical returns of both the New Zealand and international bond sectors are shown.



Historical returns and characteristics of investment sectors

The table below looks at some statistics in respect of the different investment sectors over the last 10 years (40 quarters) to 31 December 2008. All returns quoted are net of tax at 30% on taxable income based on the current (2009) tax regime.

Sector	Number of quarters with a negative return	Number of quarters with a positive return	Average annual return (% p.a.)	Range of annual returns (%)
NZ shares	16	24	3.7	-33.1 to 29.3
Overseas shares				
- Unhedged	16	24	-2.1	-40.3 to 37.1
- Hedged	10	30	-4.1	-40.5 to 32.4
NZ property	7	33	5.9	-14.9 to 61.1
NZ bonds	5	35	4.6	0.1 to 10.9
Overseas bonds				
- hedged	5	35	5.9	0.1 to 10.5
- unhedged	20	20	3.5	-13.4 to 31.2
Cash	0	40	4.7	3.3 to 6.3
Inflation	4	36	2.6	-0.5 to 5.1

Note: "hedged" international bond assets are investments in overseas bonds where the currency risk, i.e. the impact of a rising or falling NZ\$, is eliminated. "Unhedged" investments are where, in addition to the risks of the investment, the investor also gains or loses from a weakening or strengthening NZ\$.

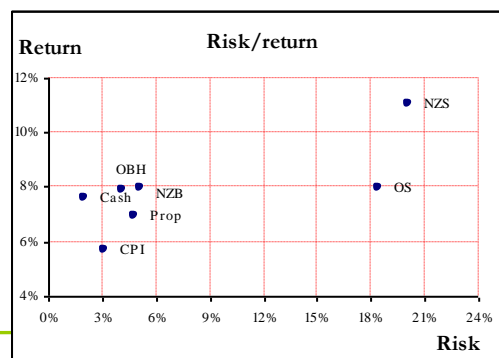
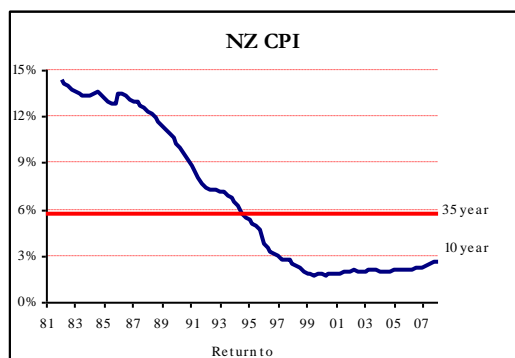
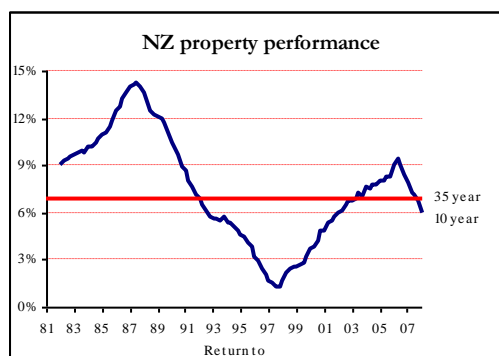
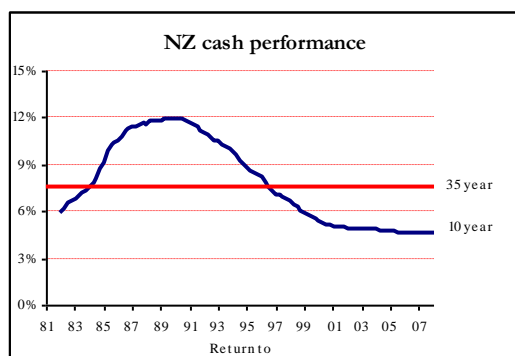
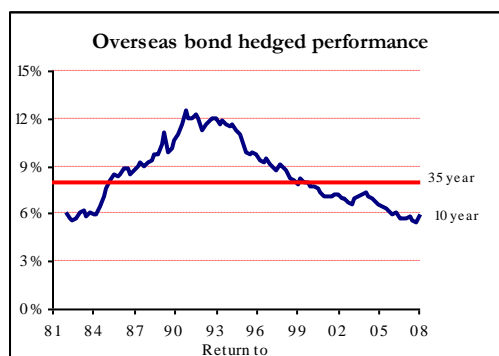
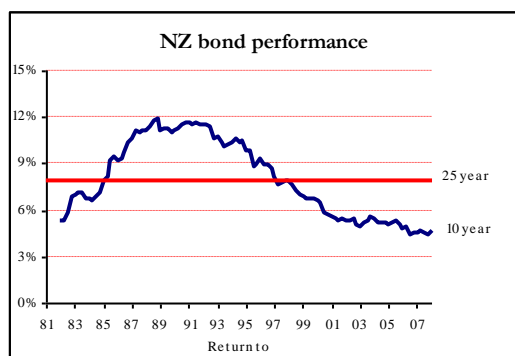
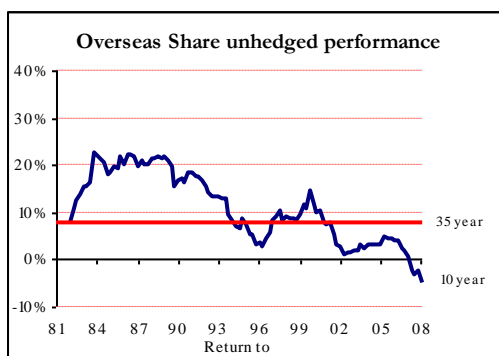
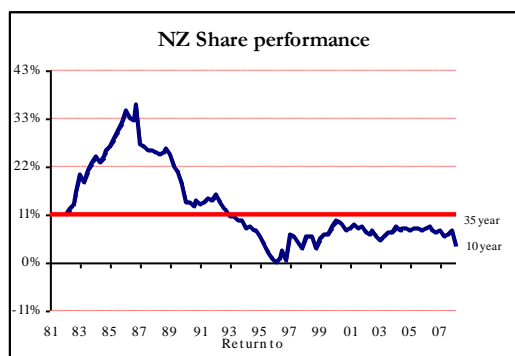
The after-tax returns over other periods were:

Sector	Longer term average returns over			Last 10 years	Recent average returns over	
	Last 35 years	Last 25 years	Last 15 years		Last 5 years	Last 1 year
	(% p.a.)	(% p.a.)	(% p.a.)	(% p.a.)	(% p.a.)	(%)
NZ shares	11.0	6.3	3.6	3.8	1.2	-33.1
Overseas shares						
- Unhedged	7.9	5.5	0.7	-5.0	-1.7	-24.6
- Hedged	5.6	4.1	1.0	-4.1	-3.8	-40.5
NZ Property	6.9	6.0	6.4	5.9	5.5	-14.9
NZ bonds	7.9	7.2	4.9	4.6	5.0	10.9
Overseas bonds						
- hedged	8.0	8.7	6.5	5.9	6.7	10.5
- unhedged	7.5	6.7	4.4	3.5	6.1	31.2
Cash	7.6	7.2	5.0	4.7	5.3	6.0
Inflation	5.7	4.2	2.3	2.6	3.1	3.4

Performance to 31 December 2008

Investment sector returns

Graphs of the net investment returns of each sector for each of the 10 year periods in the last 35 years, relative to the last 35 year average, are set out below. In addition, the risk/return relationship over the last 10 years of each of the sectors is shown in the traditional risk/return scattergraph format. The performance for shares relates to passive management.



Inflation is a significant factor for retirement savings. It affects the amount that we need to save and also what happens to our costs in retirement. Inflation is a widely used economic term that refers to the “general rise in prices”.

The best way to show the concept of inflation is by an example. Let us assume you have \$15,000 and the cost of a loaf of bread is \$2. This means you can buy 7,500 loaves of bread - at least one for each day over the next 20 years. However, in retirement, we are not only interested in the cost today, but also in the cost each day in each year over the following 20 years or so. Bread goes stale if we bought them all today.

If the price of bread increases by 5% to \$2.10, the \$15,000 would buy only 7,143 loaves of bread ($\$15,000 / \2.10). You are now one year short of a loaf a day for 20 years.

A rise in the price of something (e.g. loaves of bread) decreases the number you can buy for the same money, or increases the amount of money you need to have, to buy the same number.

Consumers are interested not just in the price of bread. They are also interested in the price of other goods and services e.g. cars, milk, housing, petrol and clothing etc., some of which will rise and others may fall. As such, inflation is the general rise in prices of all goods that they commonly buy.

The most common way of measuring the rise in general prices is the Consumer Price Index (CPI). The CPI is an index that measures the prices of goods and services “typically” purchased by consumers and is constructed by Statistics NZ. The Reserve Bank is mandated to manage this to the range of 1% to 3% p.a. over the medium term. Over the last 20 years (to 31 March 2011), inflation has averaged 2.2% a year.

A graph of inflation rates over the last 50 years is over the page. Further details are on the Statistics NZ Web site and an inflation calculator is on the Reserve Bank’s Web site.

Inflation and investment returns

In the example, we saw that because of inflation, our \$15,000 bought fewer loaves of bread. However, if we had invested our \$15,000 at the rate of, say, 6% p.a. after taxes and expenses, we could have bought more.

At 6% interest, the \$15,000 would have grown to \$15,900 ($\$15,000 \times 1.06$) at the end of a year.

At that time therefore, we could afford to buy 7,571 loaves of bread at its new price (i.e. $\$15,900 / \2.10).

This highlights the importance of achieving an investment return, over the long-term, greater than the rate of inflation. This is known as a “real” return.

Investments and inflation

Investing your assets in a combination of cash, bonds and shares, provides varying forms of inflation protection.

Cash returns will generally outperform the expected inflation rate. This is because the interest rates will quickly move to reflect changes in inflation rates. However, the downside of cash investments is lower average long-term returns and there is no protection against unexpected inflation. Also, they provide weaker protection, in periods of high inflation after you have paid tax.

While bonds should produce returns higher than cash long-term, the risk of unexpected inflation eroding the real value of the investment is also larger, given the longer term of bond investments. Like cash, to protect your capital against inflation, you need to retain (i.e. not spend) and reinvest part of your return.

Cash and bonds are normally good investments for your short to medium term expenditure.

Property investments generally provide a natural protection against inflation, as rental income will generally increase with inflation and the value of a property rises to reflect the level of rental income. Property will therefore normally, but not always, protect both the capital value and the income return against inflation over the long-term.

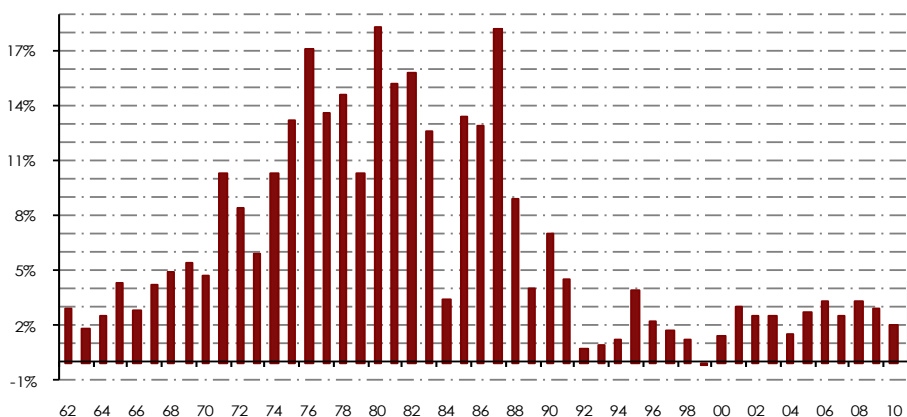
- the price of the raw materials it uses (e.g. metal) increases due to inflation;
- this increases the cost of production and reduces its profit;
- the company eventually raises the price, at which it sells its goods to restore profits in real terms.

Overall therefore:

- the cost of production increases by inflation.
- the sale prices of goods eventually increases by inflation.
- therefore, profits (sale price less cost of production) increases by inflation.
- so the company's share price (which reflects the profit of the firm) also increases by inflation.

In practice, life is not that simple, but over the long-term shares, like property, provide a natural protection. Also, while share return should exceed inflation over the long-term, there will be times when this is not the case.

Annual CPI movement to 31 March



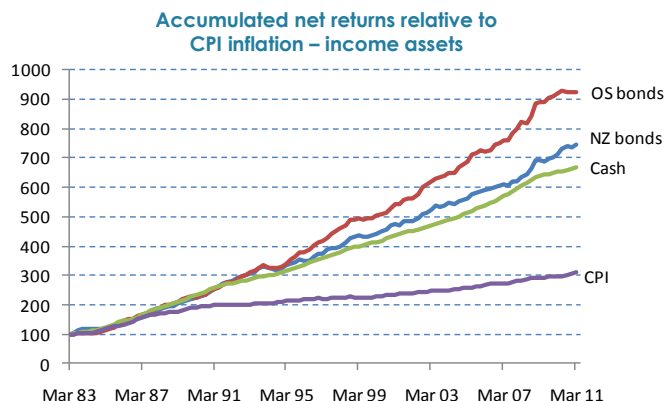
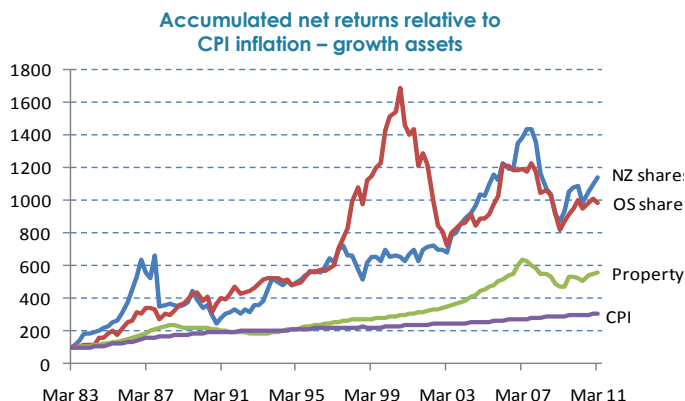
Conclusion

A long-term investor will be better off if the rate of the investment's return (after tax and expenses) is greater than the inflation rate.

Cash provides protection against expected inflation but with lower expected returns. In contrast, bonds provide higher long-term returns than cash, but have a higher risk that unexpected inflation might erode the value of the investment before the bond's repayment date. Neither bonds nor cash are good in times of high inflation.

From an inflation perspective, property and shares should provide the highest expected long run returns as well as a natural hedge against unexpected inflation. However, these advantages come at the expense of greater volatility over the short run (including periods of large negative returns).

Inflation is only one issue you should consider in determining your investment strategy. For more information on formulating your investment strategy, refer to the [SuperLife investment guide](#) available on our Web site www.SuperLife.co.nz or call 0800 27 87 37.



Understanding the source of investment returns

April 2012

The investment return of an investor depends on the business activity of the organisation ultimately invested in. It flows from the profits of the organisation, or by trading activities in buying and selling other businesses. If the returns arise from the trading of other businesses, where one investor gains, another by definition loses.

Businesses have a need for capital. They raise the capital by borrowing money from a bank, or through the bond market, or directly from shareholders. The returns that the investor gets on their capital therefore depends on the way the investor gave their capital to the business (i.e. how they invested), the profits of the business and the layers of costs (advisers, products and managers) between the investor and the business. Normally, the fewer layers and the lower the costs, the higher the net return to the investor.

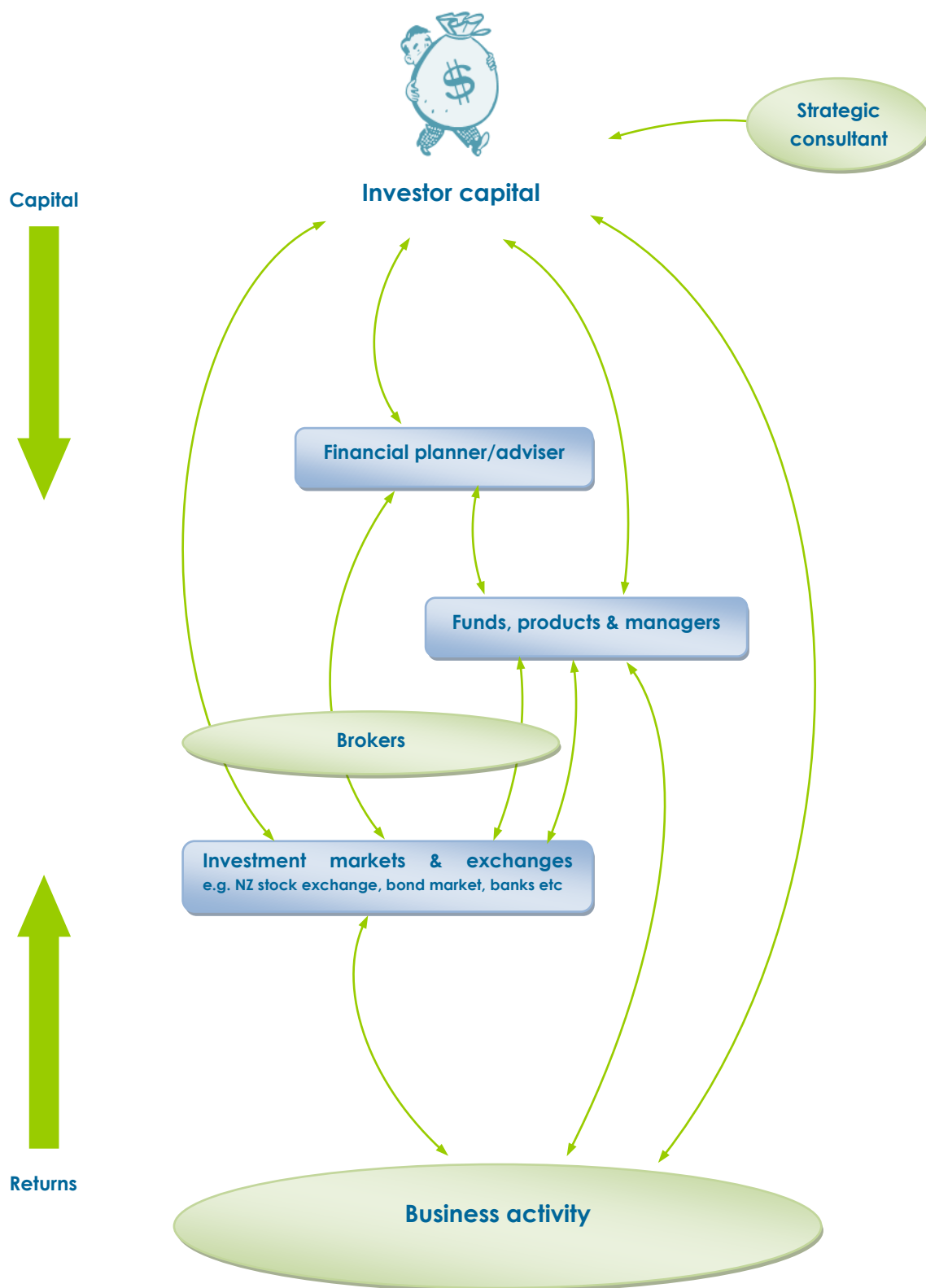
To understand the potential for returns, the investor needs to understand the nature of the activities of the organisations that they are invested in. What is important is:

1. The return on the assets employed by the business (i.e. profit relative to equity plus debt).
2. The return on the equity in the business, relative to the return on the assets, i.e. how much of the total profit goes to banks and bond holders. The residual is the return to the shareholders.
3. For share investments, how much you have to pay to buy the equity (a share) of the business, i.e. the share price relative to the current asset backing per share.
4. The costs, in terms of the markets, managers, products and financial planners/advisers, incurred to invest in the business.

In some cases, there are advantages in buying a business direct (private equity) because of reduced costs and greater control (lower risk), due to fewer layers. In other cases, it is better to invest via a recognised “market”, like the NZ stock exchange, because of liquidity and flexibility. In part, the decision on what is the best option for a particular investor depends on factors such as convenience, the investor’s need for liquidity and the amount of capital and resources of the investor. Other factors, such as the investor’s ability to do due diligence and have an influence on the management of the business, are also important, as these help manage the risks.

The different options and the resulting flow of money from the investor to the business activity (and therefore the third party risk, controls, returns and potential cost layers) are shown diagrammatically in the chart over the page. The main question becomes “are the costs incurred at each level (i.e. the reduction from the business activity returns) justified, relative to the loss of control and third party risk?” The worst scenario is that you pay a financial planner to put your money in a product which then also incurs costs, including the costs of active trading. Typically, a financial planner will receive a monitoring/advisory fee (of 0.5% to 1% of assets). For this fee, they produce a range of reports (often monthly or quarterly) and recommend which investments are bought and sold, or have delegated authority to buy and sell the investments. If they use products, the products will also have fees of 1% to 1.5% of assets a year. For this arrangement to work, the financial planner will need to be able to demonstrate that they can choose products, which will outperform the market by at least 2.5% a year. In most cases, the evidence is that they cannot. It is important to note that for a product to do 2.5% value for you, someone else must underperform the market by 2.5%, as the overall total return will still be the market return.

The flow of capital and returns



Will shares produce highest returns long-term?

April 2012

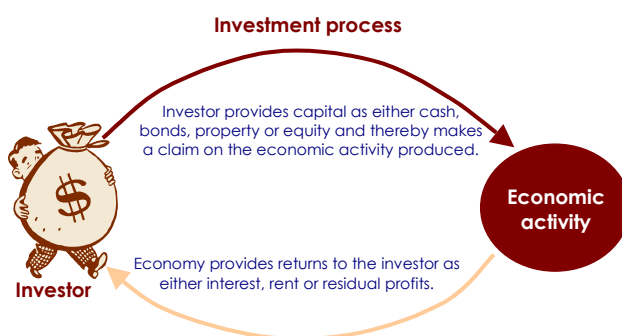
When it comes to investing, where should you get the highest returns on your capital? If we are talking long-term and are focusing on the main asset classes, the answer is probably from shares.

Historically, shares have produced the highest returns and it is generally accepted that this will continue to be the case. Intuitively, it makes sense. Shareholders take the greatest risk of capital loss and are the last in line to be paid a return. They should, therefore, ultimately get the highest return. The market forces within the economy as a whole should ensure that this remains true over the long-term though this is not guaranteed and the long-term may be very long.

Investment process

In simple terms, when investors invest their capital, they are looking to get back their capital and to receive a return on that capital in the meantime. The return comes from the economic activity generated by the user of the capital. Therefore by investing, an investor is making a claim for a share of the overall income produced by the economy. That claim, in terms of the level, timing and the certainty of receiving it, will reflect how they make the investment. The investment may be by way of short-term loans (i.e. cash), long-term loans (i.e. bonds), the provision of property (e.g. an office) or as equity. Each way makes a particular type of claim on the economic activity generated and therefore has its own expected return and is exposed to different types of risks. The returns to the providers of cash, bond investors and property investors are normally fixed. Equity investors (i.e. shareholders) get what is left.

Graphically, the investment process is



The level of the economic activity generated governs the total returns provided to investors and the way the capital is invested splits the total returns between investors.

Economic activity

Organisations need capital to fund the running of their businesses and to develop through expansion and research. The revenue they receive by their activities, in turn provides the returns to the providers of the capital, after meeting the costs of the raw materials, services and labour inputs.

The money flows can be translated into a simplified model (refer diagram next page). Dollars❶ (i.e. income or revenue) flow into an organisation as a result of the organisation's activities. These dollars get allocated to:

Other organisations❷, for payment of the inputs and services, they provide to the main organisation.

Will shares produce the highest returns long-term?

Employees³ as wages, salary and bonuses for the provision of their labour.

Banks⁴, by way of payment of interest and fees and for the provision of the short term capital needed by the organisation.

Bond holders and finance companies⁵, for the provision of the longer term fixed interest capital.

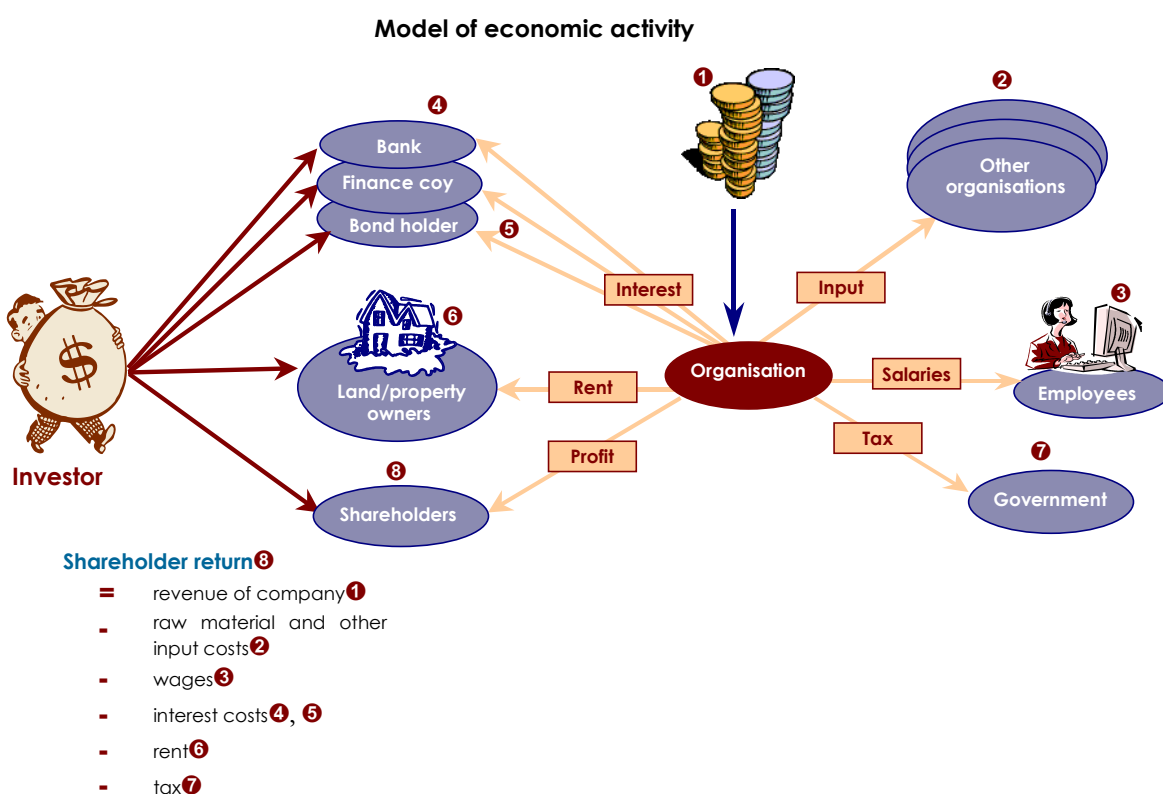
Property owners⁶, as rent for use of buildings and equipment

The IRD⁷ as tax, with the residual going to the shareholders⁸.

Payments to shareholders may be by way of dividends or by way of growth in share price through retained profits.

We can debate the order of the allocation of the organisation's revenue but the end result is the same. Shareholders provide risk capital and receive the residual (if any) profits. This is after banks have received interest, bond holders their interest and landlords their rent. Should, over time, the interest paid to banks be higher than the returns gained by shareholders? No; for the markets to work as a whole, the shareholder has to receive more long-term, but not in every year, as then no one would invest through the cash market.

In mathematical terms, the return to shareholders is the value over time of:



Will shares produce the highest returns long-term?

Over time the market self-corrects

The economic model of how the investment process works, and therefore how the economy works, is reasonably straightforward. However, its operation is complex because of the interconnections and uncertainty. It will however, always “try” to be in “balance”.

From time to time, the allocation of economic activity will get out of balance; interest rates will rise too high, or wages will go up too fast. In each case, the immediate result is lower residual profits. But that can only happen for a short period of time before the shareholders conclude that they are disadvantaged and look to withdraw their capital or, more importantly, not put in new capital. However, this is not straight forward as the organisation often determines how much of the profits are retained and shareholders have little real power.

If a company is to grow it needs new capital above that which is self-funding, shareholders have to receive appropriate returns on the capital they have already invested to encourage them to invest more. Economic forces will therefore look to bring the model back into balance.

If employees (or executives) receive more than an appropriate share then, unless that additional amount is funded by way of real growth (increased overall income net of any additional costs), the shareholders must get less. This will normally be tolerated by the shareholders for only a limited time.

If shareholders (the last in line) and those that take on more return uncertainty (i.e. investment risk), do not receive the greater share of the rewards overall, then on average, they will choose to provide money to organisations by way of loans (as cash or bonds) or to buy property and machinery, and rent it to the organisation. Logic dictates that investors that take on risk (i.e. uncertainty of return) will put up with poor returns for only a limited period, before taking action. Economic forces will therefore, overtime aim to, ensure that shareholders are appropriately rewarded.

Historical returns

Historically, shareholders have received a premium over other providers of capital, but not in every year. Using the last 30 years as an example, the relevant comparison of returns, after-tax, at 33%, is set out in table 1. 33% tax is assumed to approximate to the coverage over the period. At present, the top tax rate is 28% if invested through a PIE vehicle and 33% otherwise.

Of course in the context of the long-term, 30 years is relatively short and must be put in the context of the regulatory controls present prior to the NZ dollar floating in the 80s and the Trustee Act being amended in 1988.

Table 1 – Returns over the 30 years to 1 April 2012

Sector	Average Return	Premium relative to cash	Frequency ¹ that annual return was greater than cash
Cash	% p.a. 6.5	% p.a. -	-
NZ bonds	7.0	0.5	57%
OS bonds hedged	7.8	1.3	68%
Property	6.4	-0.1	68%
NZ shares	8.7	2.2	61%
OS shares currency hedged	7.7	1.2	62%
OS shares (unhedged)	8.1	1.6	51%

1. A frequency, for example, of 57% for NZ bonds means that, in any given 12 months, NZ bonds outperformed cash 57% of the time and therefore cash outperformed bonds 43% of the time.

Source: MCA NZ Limited, based on market index returns to 1 April 2012 after tax at an average tax rate of 33%

Understanding negative returns from bonds

- a general discussion

May 2012

Most investors are familiar with shares going up and down over the short-term, but many do not realise that almost all investments, including bond (i.e. fixed interest) investments behave in this way. This can also include cash investments, when interest rates move significantly.

This article explains how negative returns occur with bonds and how rising interest rates in particular, lead to low or negative investment returns short-term. In contrast falling interest rates lead to above average short-term returns. Where negative returns occur from interest rate movements, they are temporary in nature. Negative returns are only permanent if they arise from defaults or an investor cashes in their investment.

In many ways fixed interest investments ("bonds"), are like a bank savings account or term deposit. The investors' money is invested, interest income is received and, at the end of the fixed term (i.e. the maturity date), the original money is returned. However, this does not explain the return on a year by year basis throughout the period i.e. the return you would get if you wanted to cash in (or sell) your bond before maturity. The same applies to cash investments from one day to the next.

The return on bonds, like other investments, is made up of the interest received and the capital movement. The overall investment return, achieved in a period, can be split between:

- **Income.** The actual income received, i.e. interest;
- **Capital.** The change in the "capital" or "market" value of the bond, i.e., the difference between what you could buy/sell the bond for at the start of the period against what you can buy/sell the bond for at the end of the period.

Negative returns from bonds occur over periods when the capital movement is negative and more negative than the income received.

Like a share, the capital movement is the change in the price for which you can buy/sell the asset. In cases such as short-term bank deposits, there is no change in the market value as you can simply withdraw your money. In other cases, particularly where the term is longer than 6 months, this is not the case. To sell the fixed interest asset you must find a buyer, and the buyer may want a higher (or lower) return than you wanted when you bought the investment. Therefore, they may be willing to pay less (or more) than you did.

Put simply, if interest rates rise after you bought the bond, buyers will pay you less for the bond than you originally paid, as they can get higher returns elsewhere. This is why rising interest rates lead to poor returns from bonds.

To demonstrate this, consider an example¹ of a bond with one year to go to maturity, issued by the government. The government promises to pay the owner of the bond, whoever that is, an income of \$5 per annum for the last year and on maturity pays back the capital of \$100.

If you bought the bond, then in one year's time you would receive \$105 (\$5 income plus \$100 capital). The question is, what should you pay for the bond today?

¹ The numbers in the example have been rounded for ease of illustration; in reality the actual returns would vary slightly.

Let us assume that you could invest money in a bank account to earn 4% p.a. over one year. Then, if you invested \$101 in a bank account, the balance in the bank account in one year's time would be \$105 (\$4 income plus the original \$101) which is the same amount as you would get from the Government bond. Therefore, a fair price for the bond, i.e., its market value today, if one year interest rates are 4% is \$101.

It would be better to put your money in the bank than to pay more than \$101 for the bond. It would also be better to buy the bond if the price was less than \$101 as the return would be higher than 4% as you still get \$105 in one year's time no matter what you pay to buy it now.

Suppose instead that you could get 7% interest in a one year bank account. Then, \$98 deposited in the bank account would give approximately \$105 in one year's time, i.e., \$7 interest plus your original \$98. In this case the market value of the bond, i.e. the maximum price you would pay, is only \$98 and not \$100, otherwise you would do better by putting your money in the bank.

Interest rate movements are important

The example shows that as interest rates rise, e.g., go from 4% to 7%, the market value of a bond falls (i.e. \$101 down to \$98) and this leads to a "capital" loss if the rise in interest rates occurs after you have bought the bond.

If interest rates were 4% when you bought the bond at \$101 and then interest rates suddenly rose to 7%, your bond will only be worth \$98 (a \$3 loss). If you had to sell it, you would realise the loss of \$3. Of course, despite what happens to interest rates short-term, if you hold the bond for the year (i.e. until maturity), you get the \$3 back as you still get the \$105. So you wouldn't lose money but you won't get as much interest as other investors are getting on similar investments.

If interest rates rise significantly or the term is long, e.g. 10 years, then the capital loss may be more than the interest income otherwise payable (i.e. greater than \$5 in the example). This is how fixed-interest assets can give poor or negative returns.

Period is also important

The size of the capital loss/gain is not only affected by the change in interest rates but also the duration or time the investment has to go to maturity. The longer the period, the bigger the loss or gain. This is seen from a simple example.

If interest rates rise by 2% say, then for a 5 year bond the capital value or price must go down so the future return (or yield) becomes 2% p.a. higher for 5 years. For a 10 year bond, it must go down more as it has to provide for the 2% p.a. higher return, for 10 years.

Chart 1 shows the relationship between the change in interest rates and the market value of a \$100 bond which pays a fixed income of \$6 p.a. at various durations if interest rates move $\pm 1\%$ p.a..

As can be seen, if interest rates rise from 6%, say, to 7% then the market value of a 5 year investment goes down by approximately \$4 e.g. from \$100 to \$96. For a 10 year investment the capital loss is \$7.10 i.e. 7.1%.

In contrast, when interest rates are falling the reverse is true. If interest rates fall from 6% to 5% you would get a capital gain of \$4 for a 5 year bond and \$8 for a 10 year bond as the price, i.e., market value, moves from \$100 to \$108.

Summary

When it comes to bonds, it's important to understand the relationship between price and yield (i.e. return). For a particular bond, if the price goes up (i.e. it becomes more expensive), the resulting yield goes down. Likewise, as interest rates (i.e. yields) go up, the price goes down giving a capital loss.

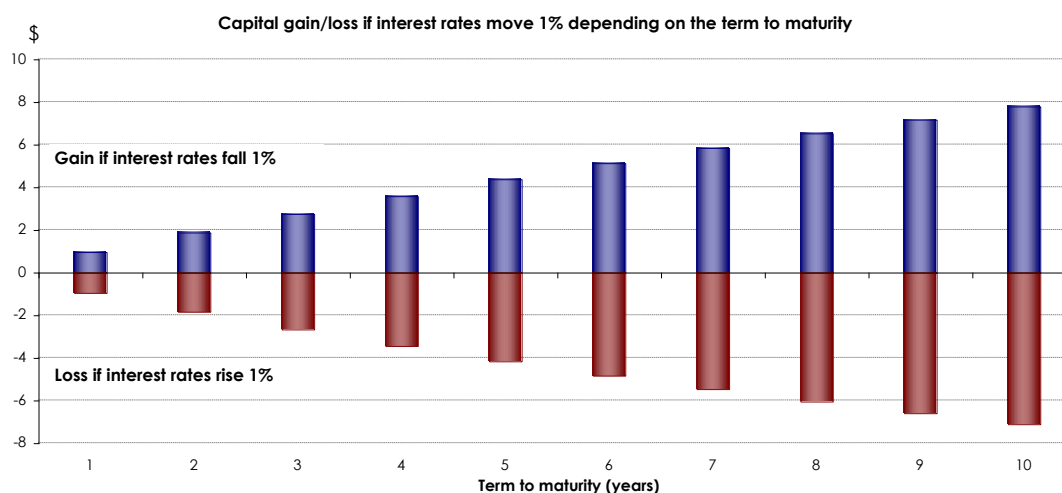
When a bond is	The price is	The yield is
Expensive	Higher	Lower
Normal	Normal	Normal
Cheap	Lower	Higher

So when you hear that bonds have “gone up”, what it really means is that prices have gone up and yields have gone down.

All this says is that you can lose money on a government-guaranteed investment if you want to sell it before maturity.

The chart below shows what happens to a bond paying 6% p.a. if interest rates change.

Chart 1



Understanding negative returns from shares

- a general discussion

April 2010

We understand that when we invest in shares the value will go up and down and will sometimes be negative. The question is how often should we expect a negative return over a quarter? What about 1 year or 2 years? To illustrate, let's look at overseas shares without currency risks (i.e. overseas shares hedged). The equivalent numbers for unhedged overseas and NZ shares are on the back page.

Looking back

If we look at the 120 quarters in the last 30 years to 1 January 2010, we see a pattern of quarterly returns that range from -24% to +19% around an average of 2.7%. Of the 120 quarters, 35 were negative - about 29%.

The negative quarters averaged -7%. Most fell in the range 0% to -10%. However, when a quarterly return of -10% or more occurs, we should not be surprised. It will happen, but not often (about 8% of the time).

This highlights that negative returns occur frequently over the short-term. They are part of the investment outcomes for an investor, who wants a return better than that available from cash over the long-term. But if it is a negative over one quarter, what about the next quarter?

What about negative quarters in a row?

The next table allocates the 35 negative quarters to periods where the negative return lasted just a single quarter (17 times), two quarters (5 times), three quarters (once) or four quarters (once).

Number of consecutive negative quarters	Number of occurrences
1	16
2	4
3	0
4	1
5 or more	1

So, when a negative quarter occurred, there was a 54% chance that it was the first of several consecutive negative quarters and a 46% chance that it was an isolated incident. Very rarely have we seen more than two consecutive negative quarters.

Also relevant are positive quarters. The table at the side plots the number of consecutive positive quarters within the same time period. Remember, the quarters with a positive return far outweighed the number of quarters with a negative return.

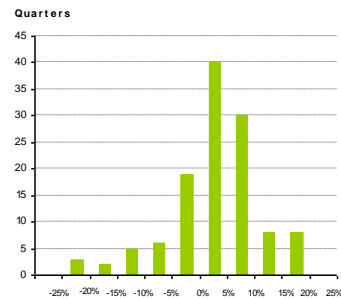
Number of consecutive positive quarters	Number
1	4
2	6
3	2
4	2
5 or more	8

What should I do about negative returns?

Negative returns over the short-term are unavoidable, unless you don't buy assets that go up and down in value. Given that they happen, it is important to put in place strategies to manage the outcome when they do occur. For many the answer will simply be to be patient and wait for the inevitable recovery. For others, it will be to maintain cash and bonds to provide cash to meet expenditure while they wait for the recovery.

Quarterly returns

Overseas shares (MSCI) hedged



Source: MSCI hedged index

A key investment principle is not to invest in shares, money that you intend to spend over the short to medium term (e.g. the next 10 years). If a negative return happens, you can therefore afford to wait for the markets to recover and not be forced to sell the shares when their values are down. This is one reason why an investor, near retirement, should have a mix of cash for immediate expenditure, bonds for medium term expenditure and shares for longer term expenditure.

A second key principle is to have appropriate diversification. It is often best not to have only overseas shares, or only NZ shares. This is because the two markets don't always go down together. Over the last 30 years, the number of quarters where the returns of the two markets were both positive (67 quarters), or both negative (23), or one was positive and the other negative (30). Therefore, unless you can work out in advance when one country will do better than another, it is better to hold a combination of the shares of different countries. A combination provides a better outcome from a risk point of view, than holding the shares from a single country - this is the principle of diversification.

Overseas market	NZ market	
	Negative	Positive
Positive	18	67
Negative	23	12

Looking forward

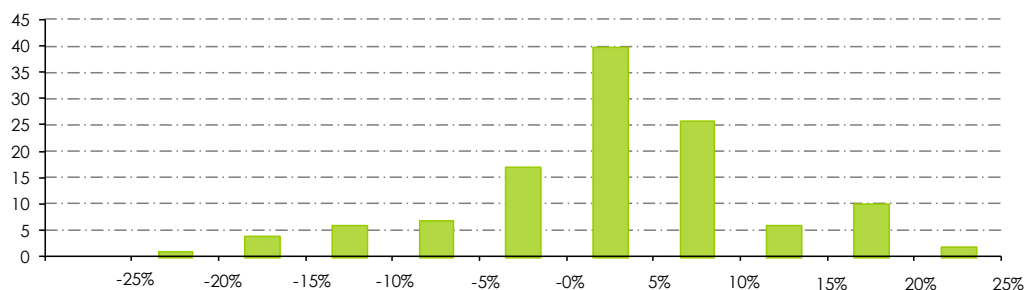
The above analysis is based on the past - what about the future? We do not know what the future will hold. However, we see few reasons why positive and negative returns will not occur with the same sort of frequency in the future as they have in the past.

Understanding negative returns from shares

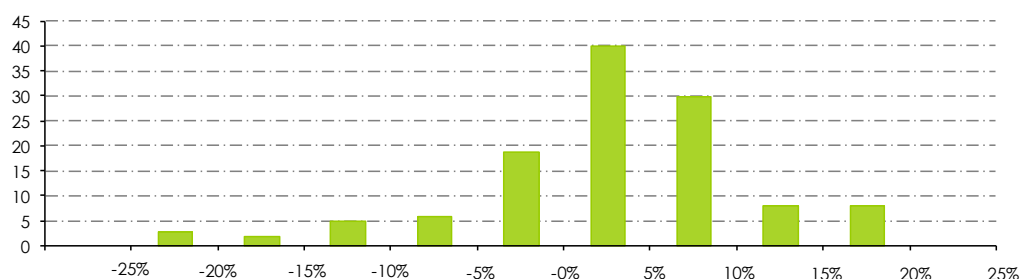
The statistics for unhedged and hedged overseas shares and NZ shares (1980 to 2009) are:

Frequency of returns over a quarter - each bar shows the number of times a return range occurred in a quarter

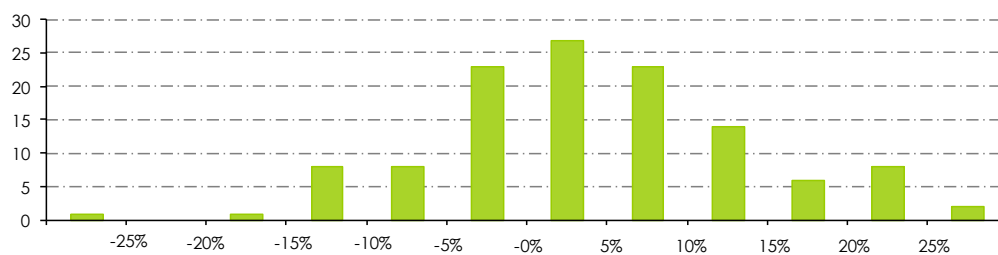
Overseas share unhedged (MSCI hedged)



Overseas share hedged (MSCI hedged)



NZ shares (NZSX 40)



Number of consecutive negative quarters

MSCI unhedged	
No. of consecutive negative qtrs.	No of occurrences
1	20
2	4
3	1
4	0
5 or more	1

MSCI hedged	
No. of consecutive negative qtrs.	No of occurrences
1	16
2	4
3	1
4	1
5 or more	0

NZSX40	
No. of consecutive negative qtrs.	No of occurrences
1	16
2	8
3	1
4	0
5 or more	0

Number of consecutive positive quarters

MSCI unhedged	
No. of consecutive positive qtrs.	No of occurrences
1	8
2	4
3	1
4	4
5 or more	8

MSCI hedged	
No. of consecutive positive qtrs.	No of occurrences
1	4
2	6
3	2
4	2
5 or more	8

NZSX40	
No. of consecutive positive qtrs.	No of occurrences
1	11
2	5
3	4
4	2
5 or more	6

Currency – the impact on returns

- a general discussion

April 2012

The return from an overseas investment is made up of the return from the underlying asset and the impact of the change in the currency value i.e. the movement in the exchange rate between NZ and the overseas country. Often, the change in the currency value dominates the total return over the short-term.

In this article we look at the recent level of currency movements, the impact on returns, current market practice, currency management options, and the concept of hedging (appendix A). An “economic 101” discussion on currency, is set out in appendix B.

By way of an example

Suppose you own a US asset worth US\$1,000. If the NZ:US exchange rate is NZ\$1 = US\$0.50 the asset is worth NZ\$2,000.

To make things simple, say the asset will be worth US\$1,050 with certainty, in one year's time (i.e. the current US\$1,000 plus a 5% return). The return in \$NZ terms is unknown because the investor doesn't know what will happen to the exchange rate i.e. how many New Zealand dollars, US\$1,050 will buy in one year's time.

If the exchange rate is unchanged at US\$0.50, US\$1,050 will be worth NZ\$2,100 in one year's time, i.e. a 5% return on the NZ\$2,000 at the start of the year.

However, if the NZ dollar weakens (goes down) by 10% so that the NZ:US exchange rate becomes NZ\$1 = US\$0.45 (i.e. you now need more NZ dollars to buy one US dollar or one US dollar buys more NZ dollars) the investment in one year's time is worth NZ\$2,333, a 16.7% return.

Alternatively, if the NZ dollar strengthens (goes up) by 10% so that the NZ:US exchange rate becomes NZ\$1 = US\$0.55 (i.e. you now need fewer NZ dollars to buy one US dollar) the investment in one year's time is worth only NZ\$1,909. Under this scenario the investor has lost NZ\$91, i.e. a negative return of 4.5%, on the original investment.

What starts out as an investment with a 5% return outlook, could end up producing a return ranging from -4.5% (i.e. 9.5% less) to +16.7% (i.e. 11.7% more). This highlights the volatility and short-term risks associated with currency movements. What would otherwise be a positive return might end up negative. Add to this the uncertainty normally associated with the expected return (i.e. the 5%, in the example, is not normally certain) and the short-term risks become higher. If achieving a successful return outcome over the short-term is important, these risks need to be “managed”. This is where the concept of “hedging” becomes an important management tool. If the short-term returns are not important, management of the currency exposure is less of an issue.

Table 1 – overseas bond performance (NZ\$) (gross)

Returns to 31 December	Hedged overseas bonds	Unhedged overseas bonds	Currency impact if unhedged
2011	8.4%	2.1%	6.3%
2010	2.4%	-4.7%	7.1%
2009	3.5%	-17.6%	21.1%
2008	15.2%	46.0%	-30.8%
2007	8.9%	1.7%	7.2%
2006	5.5%	2.5%	3.0%
2005	9.1%	-1.2%	10.4%
2004	9.4%	0.3%	9.1%
2003	6.3%	-8.4%	14.7%
2002	12.0%	-5.7%	17.7%
2001	8.2%	4.8%	3.4%
2000	10.3%	19.8%	-9.5%
1999	0.8%	-2.5%	-3.3%
1998	12.4%	26.5%	-14.1%
1997	12.8%	21.9%	9.1%
1996	13.0%	-4.1%	17.1%
1995	21.4%	16.5%	4.9%
1994	-1.8%	-10.6%	8.8%
1993	16.0%	4.0%	12.0%
1992	10.9%	11.5%	-0.6%
2002 to 2011	8.1% p.a.	0.4% p.a.	7.6% p.a.
1992 to 2001	10.2% p.a.	8.1% p.a.	2.1% p.a.
1992 to 2011	9.1% p.a.	4.2% p.a.	4.9% p.a.
1982 to 2011	11.8% p.a.	8.7% p.a.	3.1% p.a.

Currency movements

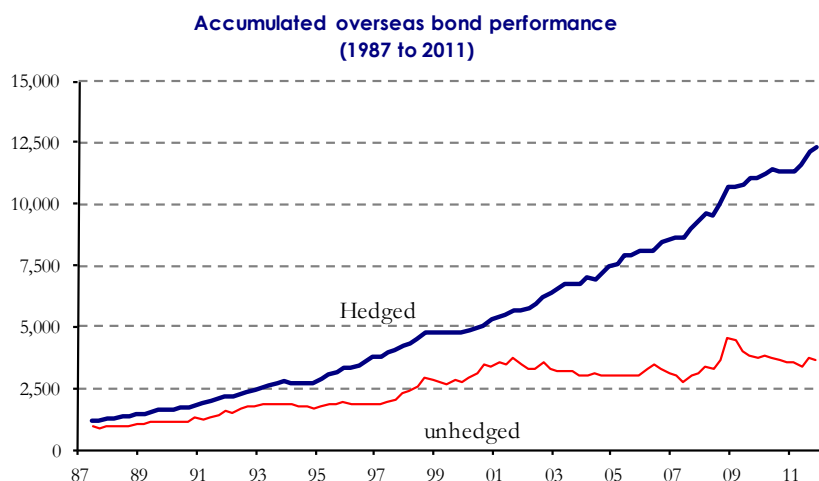
The above example assumed that the currency could move $\pm 10\%$ in a year. While this may sound a lot, movements of this size have often been the norm – about half the time.

History shows that over long periods of time, currency often adds very little to, or takes very little away, from the average return. In contrast over short periods of time, the impact of currency movements can dominate the return.

Using overseas bond investments as an example (refer table 1), recent experience has been:

- the returns have benefited by being exposed (i.e. unhedged) to currency movements in 5 years and lost in the other 15 years out of the last 20;
- the impact of the currency movement over the short-term (e.g. one year) has been to reduce or increase the annual return by between $+21.1\%$ and -30.8% (refer table 1);
- over the 25 year period, 1 January 1987 to 31 December 2011 (i.e. since the NZ dollar was floated) the annualised gross return was approximately 12.7% p.a. with the currency risk hedged and 5.3% p.a. with it unhedged. This reflects that the NZ dollar is generally higher trading than it was when it floated.

The graph below shows the accumulation of \$1,000 since 1 January 1987. This highlights (selectively) the nature and impact of currency returns on the underlying asset, and the short-term variations of those returns.



The currency choice

In respect of overseas investments, investors have a choice of whether, or not, they are exposed to the risks of currency movements. When the NZ\$ is going up (i.e. strengthening) relative to other countries the ideal, from a return perspective, is to remove the currency movement i.e. to be “hedged” back to NZ dollars. When the NZ\$ is going down (i.e. weakening) the optimal return comes from being “unhedged” i.e. by also receiving the return from the currency movement.

If we knew with certainty the future direction of the NZ\$ we could expose ourselves to the currency movement or protect ourselves from it, as appropriate. However, like all investment decisions it is a risk/return trade off. The decision therefore should be driven primarily by long-term strategic and risk management factors and in some cases, short-term tactical considerations.

Hedging

If investors want to remove or reduce the impact of changes between NZ and overseas exchange rates, they can “hedge” the overseas currency exposure. This is normally done by taking out a forward currency contract, with another party (e.g. a bank) to sell overseas currency at a future date and buy NZ dollars. It is done at an agreed exchange rate at the time the contract is taken out.

A hedging contract agrees upfront what the exchange rate is at some point in the future, and the level of currency that can be bought or sold at that price. By hedging, investors can decide the level of their currency exposure and the time frame for the protection.

The agreed exchange rate depends on the current exchange rate (known as the “spot” rate) and the difference between New Zealand’s and the overseas country’s short-term interest rates. The workings of a forward currency contract are set out in the appendix.

If a hedging contract is taken out then, no matter what happens to the exchange rate over the period, the forward currency contract removes the impact of currency movements. Of course the consequences of removing the effects of adverse currency movement is that advantageous movements are also removed. For this reason investors must be clear on their objectives for a particular currency policy in terms of the level and amount.

The hedging level can be fixed (e.g. fully hedged, fully unhedged or partially hedged/unhedged) or allowed to vary (e.g. the decision on the actual hedging level could be delegated to a currency or investment manager from time to time).

While there is no doubt that at times being hedged pays off in terms of returns, it should be remembered that overall risk is not necessarily being reduced, merely changed; foreign currency risk is removed but exposure to the New Zealand economy is increased and therefore the level of diversification of the overall portfolio is changed. Diversification reduces because the correlation of hedged overseas assets with New Zealand assets is higher than that of unhedged overseas assets. Diversification is a key requirement of the fiduciary responsibilities of an investor who must comply with the Trustee Act.

Market practice

While not universal, the general or default approach of managers (and investors) in NZ tends to be:

Overseas sector	Hedging policy
Bonds:	fully hedged with occasional “tactical” unhedged positions when the manager has a strong view
Shares:	Mixed. Historically unhedged with “tactical” hedged positions, though now a few managers adopt a 50% neutral hedged position and some a 100% passive hedged position.

As a rule, investors have tended to adopt the manager’s default position or put in place an automatic passive hedge position (e.g. 0%, 50% or 100%) to be fully exposed, partially exposed or not exposed to the risks associated with currency movements. The practice of an automatic passive hedging level (e.g. 50%) for overseas shares is adopted by a few NZ managers. Moving from a zero position has coincided with increases in overseas share allocations and the greater significance unhedged currency movements have on the overall return.

In several cases a 100% passive hedged position has been adopted. The argument for this is that overtime being hedged gives NZ investors an advantage equal to the interest rate differential within the hedging contracts. Appendix A shows how this works.

Also, a few investors have in place a separate active currency overlay policy by appointing a separate specialist currency manager. The specialist currency manager tends to be an offshore based manager or the overseas currency team of a global manager with an NZ presence. Few NZ based managers have significant currency team resources and models to make active decisions.

Should you hedge your overseas assets?

For most investors, the hedging issue should be addressed from a strategic or liability perspective at the time the investment policies are set, and before a manager is appointed. Putting specific liability considerations to one side, a key question is: what is the reason for investing overseas?

How does the risk/return characteristics of the asset (hedged or unhedged) compare with the characteristics of the liabilities. The liabilities are normally a stream of payments or cash flows. Separate decisions should be made for bonds and shares and total position should also be analysed.

From a strategic point of view, it is important that investors are clear as to their reasons for investing overseas. Only then can they be sure that the hedging policy is appropriate for the liabilities, and that they don’t simply adopt a manager’s default position for convenience alone, or base the decision purely on expected return considerations.

Bonds

The purpose of a bond is to generate a reliable stream of income. Typically, the strategic reasons for investing in overseas bonds are to either:

1. Gain excess returns, relative to NZ bonds, on an opportunistic basis.
2. Gain access to longer durations, that are not available in NZ, to be more consistent with the long-term nature of the liabilities.
3. Gain access to higher yielding corporate bonds.
4. Diversify the risks associated with NZ interest rate movements.
5. Diversify risk away from the New Zealand economy.

From a strategic viewpoint, if reasons 1, 2, 3 and 4 are relevant, the starting position is that of being fully hedged. In these cases the overseas markets are treated as a natural extension of the New Zealand market and the currency risk should only be taken on if there is a further risk/return advantage. Reason 5, should lead investors to be strategically unhedged because the objective is to diversify and reduce the dependence on the New Zealand economy. This diversification decision would however, be made by also looking at the exposure to the total overseas assets and not just bonds.

In practice a combination of reasons 1 to 5 will apply and a partial hedge will be theoretically optimal. However for a typical “balanced” strategy, the economic diversification benefits will be dominated by the exposure to overseas shares and it is therefore in this case, not unreasonable to let reasons 1 to 4 to dominate the bond decision and to be fully hedged.

Also, in most cases the reasons bonds form part of the overall strategy is normally to produce predictable income. On this basis being unhedged would compromise the purpose.

Shares

The strategic reasons for investing in overseas shares are similar to those for bonds:

1. Participate in industry sectors unavailable in New Zealand.
2. Recognise that the markets are “global” and companies often have to be internationally competitive and not only local market competitive.
3. Minimise risk by holding a greater number of shares than is available in NZ.
4. Participate in higher growth economies.
5. Diversify risk away from the New Zealand economy.

Theoretically, reasons 1, 2 and 3 should lead to a starting point of being fully hedged because it treats the other markets as alternative opportunities and as an extension of the New Zealand market. Though in each case there are strong arguments that support being either hedged or unhedged. Reasons 4 and 5 should lead to a starting point of being unhedged. The actual level of the strategic hedge will also be influenced by other considerations.

For example, the “purchasing power parity” argument that shares have a natural inbuilt hedge, is often used to justify unhedged overseas shares, even if the reasons for the investment favour reasons 1 to 3.

Importance

The above discussion focused on principle without regard for “importance” or practical considerations. An investor whose strategic investment strategy had minimal overseas exposure may be indifferent as to whether it is hedged or unhedged. The impact on total return is negligible.

In contrast for an investor where the overseas allocation was 100% of assets, the currency issues are very important and risk management considerations alone would lead to some form of protection for an NZ investor with some short to medium term NZ dollar liabilities.

Overall, we consider that once the overseas exposure exceeds 30% to 40% of the total assets, prudence and risk management considerations will lead an “average” investor to an element of hedging, unless there was a high level of certainty that the NZ dollar would depreciate short-term.

Tactical currency positioning

Up to now the focus has been on the appropriate hedging position from a strategic and general policy perspective. Whether or not the NZ dollar is expected to appreciate or depreciate in the immediate future was ignored.

Separate to the strategic position, investors need to decide what to do in respect of the immediate or short-term outlook. In the same way that investors can adopt tactical asset allocation positions, they can adopt tactical currency positions.

Tactical considerations are different to strategic considerations though are only practical for larger investors from a cost benefit perspective.

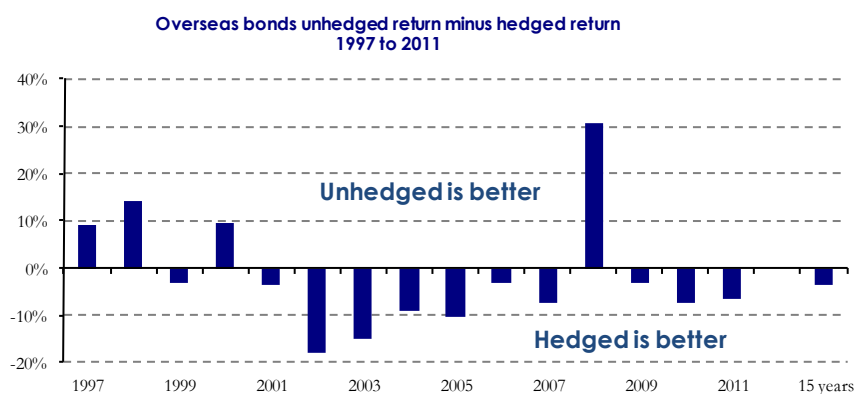
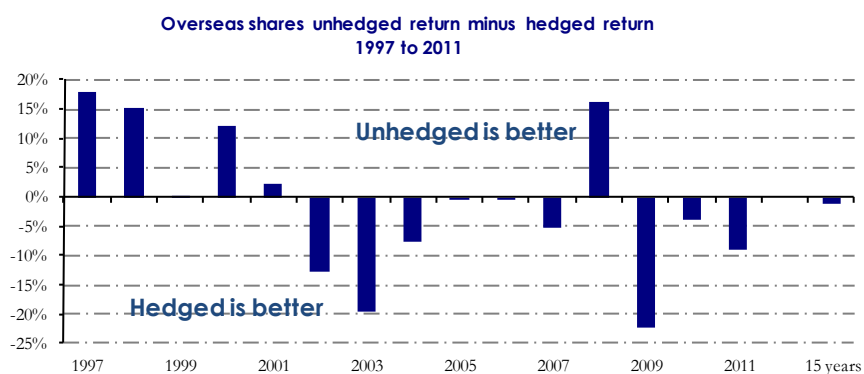
Short-term tactical positions can be taken for risk management opportunities (normally to increase the hedging level to avoid loss) or for return opportunities, based on a view as to direction of the currency movements over the immediate future.

Because of the trending nature of currency and the dynamics of the currency markets, several managers have been successful in forecasting medium term movements and therefore added value from tactical positions.

However, like all active managers, for every one that does, one does not. If tactical management is to be employed, for return enhancement reasons, we believe that a specialist currency manager is the more robust route.

Historical performance

Details of the performance differential of overseas shares and bonds from being hedged and not unhedged is shown in the graphs below. The performance differential of a portfolio that is 50% hedged and 50% unhedged would be equal to half the differential shown and therefore would remove the extremes associated with being fully hedged or fully unhedged.



Appendix A - How currency hedging works

Currency – the impact on returns

A hedging contract agrees upfront the exchange rate that will apply at an agreed future date. It also agrees the amount of currency that can be bought or sold at that price. A hedging contract has the objective of removing, for an investor, the uncertainty associated with currency movement from the return outcome.

The price or cost of a hedging contract, ignoring transaction costs, depends on the current exchange rate and the current interest rates in NZ and the overseas country. The following example illustrates the operation of currency hedging.

A simple example

Returning to the earlier example, let us assume that the investor is happy with the prospect of a 5% return, and therefore wants to hedge against the risk that the NZ currency strengthens i.e. appreciates. The investor wants with certainty NZ\$2,100 in one year's time. Let us also assume that the one-year interest rates in both the US and NZ are currently 4%.

Accordingly, to ensure that in one year's time the NZ investor has NZ\$2,100, the investor could borrow US\$1,010 in the US today (at 4%) and convert it into NZ dollars at the current exchange rate (NZ\$1.00 = US\$0.50) to give NZ\$2,020. If the investor then invests the money in a NZ one year bank deposit, at 4%, the bank deposit will grow to NZ\$2,100 i.e. NZ\$2,020 plus 4% over the year. This is the return required.

Also, in one year's time the debt in respect of the US borrowings of US\$1,010 would have grown to US\$1,050 (i.e. US\$1,010 plus 4% interest) and be due for repayment at that time. This is not a problem as the investor can now sell the US investment, which is also worth US\$1,050, and repay the loan.

The above process achieves the investor's goals and demonstrates the principles behind how an investor removes the currency risk by hedging. It highlights that a hedging contract can be considered to be a combination of the current exchange rate, which is known, and the costs of short-term borrowing/investing in both countries which are also known.

It also shows that, provided you own the overseas investment, the "risks" of buying a hedging contract, and not being able to honour your side of the hedging contract, are small.

The real world is more complicated than the simple example given above, as interest rates are not the same and the future value of the overseas investment is unknown. There is also the risk that the other party (e.g. a bank) defaults on its obligations.

Differing interest rates

What happens if interest rates are higher in NZ (e.g. 6 %) than in the US (e.g. 4%) as is normally the case.

In this case the NZ\$2,020 borrowed grows to NZ\$2,141 and the investor gets not only his 5% return but a further NZ\$41 (2%). This occurs irrespective of what happens to the actual currency rate over the year.

The total return the New Zealand investor receives therefore, is the US return, i.e. 5%, plus the difference between the NZ and US interest rates, i.e. $6\% - 4\% = 2\%$ giving a total return of 7%.

While New Zealand interest rates remain higher than those of other countries, hedging will add a premium (greater than the cost) and, unless the NZ\$ weakens, this premium will enhance the return otherwise available from unhedged assets. This is one reason why overseas bond investments are normally hedged and many long term investors adopt a 100% hedging position for shares.

The reverse also applies where interest rates in NZ are lower than overseas. In this case the bank deposit would not grow to the required NZ\$2,100 and the investor would have to pay the difference for hedging the currency risk. In this case hedging has a “cost”.

Unknown future values

The overseas assets held, are usually bonds or shares and the proceeds from, or value of, these assets is not known in advance, in terms of timing and amount (unless bonds are held to maturity). Accordingly, full hedging is not possible as you do not know exactly how much forward currency to buy. There are therefore risks and hence potential costs of buying too much or too little.

For this reason, managers tend to use short-term contracts (e.g. 1 or 3 month forward currency contracts) and roll them over at the end of each period. This enables them to adjust the level of cover up or down depending on how much currency protection is required.

Hedging contracts in reality

The simplified example assumed that the exchange rates for converting overseas currency was the current (or spot) rate and the additional return arose from the different interest rates.

In reality, the exchange rate specified in the forward currency contract (the "forward rate") reflects the spot rate adjusted for the interest rate differential. In practice it is determined by the mathematical formula (ignoring buy/sell spreads):

$$\text{Forward rate} = \text{Spot rate} \times e^{[\text{interest rate differential}]}$$

where 'e' is the base of the natural logarithm.

Example

If the current NZ:US exchange rate was NZ\$1.00 = US\$0.50 the forward rates at different US interest rates are:

US interest rate = NZ rate	Forward rate
+2%	0.510
+1%	0.505
0%	0.500
-1%	0.495
-2%	0.490

As can be seen, if US rates are lower than NZ rates (e.g. -2%) then in one year's time, US dollars will be able to be converted to NZ dollars at 0.49 not 0.50 enhancing the return otherwise payable irrespective of what happens to the NZ:US exchange rate in the meantime. If the exchange rate doesn't fall below 0.49 this would be the right decision.

In terms of the formula, the main thing to note is that if, as is currently the case, New Zealand interest rates are higher than US rates, the forward rate (i.e. the cost of buying US dollars) is lower than the spot rate. This can also be interpreted that the New Zealand dollar is expected to weaken against the US dollar unless it is fully explained by New Zealand's risk premium.

In addition to the buy/sell spread, the investor will also pay a transaction charge for entering into the contract. These charges are similar to the costs of a normal foreign currency transactions of banks. In addition there may be increased investment management charges.

Costs

The costs associated with a currency management policy, assuming that the alternative is to be unhedged and exposed to the risks of currency movement, include:

Management fee: typically a management fee of 1 to 5 basis points (i.e. 0.01% to 0.05%) is payable to the manager for implementing the hedge if passive currency management is used and 10 to 25 basis points if a specialist active currency overlay approach is adopted.

Transaction costs: bank costs associated with an overseas currency transaction together with the market buy/sell spread are incurred. Currently buy/sell spreads between NZ and overseas markets vary between 5 and 15 basis points depending on the country and term of the currency contract.

The above actual costs are offset by the impact of the interest rate differential. In the current environment, this would provide an additional return in excess of the management fee and transaction costs.

Also associated with hedging is the opportunity cost of being hedged or unhedged. If you are hedged and the NZ dollar weakens the loss of the potential return is an opportunity cost. Likewise if you are unhedged and the NZ dollar strengthens there is the loss associated with not being protected against currency movements.

Technical terms**Exchange rate**

The price of one country's currency in terms of another country's currency.

Forward rate

The exchange rate that the two parties, to a forward currency contract, agree will apply at the end of the contract period.

Spot rate

The current exchange rate between two countries normally for settlement in 2 business days.

Interest rate differential

The difference between interest rates in one country and interest rates of an equivalent security in another.

Interest rate parity (IRP)

Differences between interest rates between countries should result in investors moving capital to where they can get the best rate. Currencies should adjust to make the total return the same.

Power purchasing parity (PPP)

The theory behind PPP states that if a product is freely available and traded in different countries, it should sell for the same price in those countries. If it currently does not, either inflation or currency movements should occur so that the prices become the same. The exceptions will relate to local factors such as tax and transportation costs.

Appendix B - Exchange rate theory, economics 101

Currency – the impact on returns

To understand what might happen to the exchange rate in the future, it helps to have an appreciation of the economic drivers of exchange rates. The key economic factors that influence the price of a NZ dollar include:

- Interest rate differentials
- Price differentials
- Growth differential
- Trade flows.

In addition there will always be an element of speculation or sentiment, resulting from the human dynamics of the markets.

Supply and demand

Under the New Zealand floating exchange rate policy, the exchange rate on a given day is the outcome resulting from the demand-for and supply-of NZ dollars. Each of the economic factors is therefore looked at below in the context of their impact on supply and demand.

In simple terms:

- An increase in the demand for NZ dollars (i.e. more people want to buy NZ dollars) leads to the NZ dollar strengthening (i.e. going up or appreciating) and vice versa.
- A decrease in the supply of the NZ dollars (i.e. less people want to sell NZ dollars) also leads to the NZ dollar strengthening (and vice versa).

Graphically these are illustrated by traditional supply/demand graphs.

The demand for NZ dollars

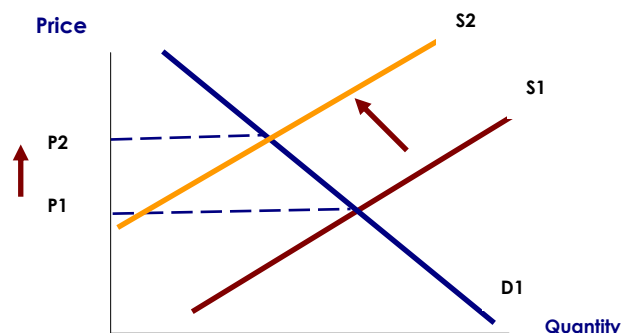
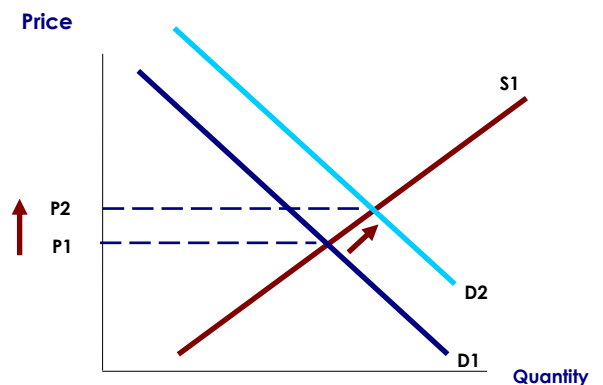
As demand for the NZ dollar increases, i.e. the demand curve moves from D1 to D2, and the supply stays the same (i.e. S1), the Price of a NZ dollar moves from P1 to P2 i.e. the NZ dollar increases or appreciates.

We therefore need to think about what might lead to a change in the demand.

The supply of the NZ dollars

As the supply of the NZ dollar decreases, i.e. the supply curve moves from S1 to S2, and the demand stays the same (i.e. D1), the Price of a NZ dollar moves from P1 to P2 i.e. the NZ dollar increases or appreciates.

We therefore need to think about what might lead to a change in the number of NZ dollars available to be bought.



Economic factors

Interest rate differentials

As a general rule, a country with high interest rates, like New Zealand, will attract foreign investors. If the interest rates rise this will increase the demand for NZ dollars and we would expect economic forces to lead to a strengthening NZ dollar.

At the same time, as overseas investors want to invest more in New Zealand, local NZ investors are less willing to sell NZ dollars and invest in lower interest rate countries. This will therefore thereby decrease the supply of NZ dollars and we would expect the NZ dollar to strengthen.

Therefore, all else being equal, when interest rates go higher, the exchange rate should rise short term, as both the supply and demand forces work together.

However, “Interest Rate Parity” theory suggests that investors will respond and, with the free movement of capital around, the world the increased return from higher interest rates will eventually be eliminated through subsequent exchange rate movements.

Whilst the movement of capital is generally free and quick, with today’s technology and financial markets, Interest Rate Parity does not strictly hold in the short term, as interest rate differentials are not the only factor that influences the exchange rate. Interest Rate Parity therefore, is more applicable long term.

Price differentials

As a general rule a country with lower prices (say New Zealand) will attract foreigner traders to buy goods in their “cheaper countries” and then re-sell them in more expensive countries. This increases the demand for NZ dollars and the NZ dollar should strengthen.

At the same time, local NZ traders are less willing to import goods from the more expensive foreign economies as they are less competitive. This decreases the supply of NZ dollars available to the foreign traders and therefore the NZ dollar strengthens. Therefore, all else being equal, when inflation is lower in one country and prices are staying relatively lower, the exchange rate should rise (strengthen).

However, “Purchasing Price Parity” theory suggests that traders will respond to the relative price environment and the increased profit will eventually be eliminated by exchange rate losses. For this to hold true, there must be “free” movement of goods.

Unlike the movement of capital, goods and services tend not to move freely across countries. Reasons for this include different taxes, tariffs, quotas, transportation costs and the price of non tradable inputs, e.g. labour costs, which can vary significantly between countries. Purchasing Price Parity does not therefore strictly hold in the short term. However, over a longer-term period, empirical evidence does support Purchasing Price Parity.

Overall, given the dominance capital movements have over the physical movements of goods and services, shorter term movements in the exchange rate tend to be more correlated with interest rate differentials as opposed to price differentials.

Growth differential

As a general rule, a country with higher growth rates will attract foreign investors as they expect the return on shares, bonds, cash etc to be higher, thereby increasing the demand for the currency of the country (i.e. the currency appreciates). So when the NZ has higher economic growth, we expect higher share returns and a strengthening NZ dollar. This is similar to interest rate differentials but focuses more on the longer term return.

At the same time as overseas investors want to buy NZ dollar because of the better growth prospects, local NZ investors are less willing to invest in lower growth countries, thereby decreasing the supply of NZ dollars (NZ dollar appreciates).

Trade flows

As a general rule, a country with high exports requires the payments for the goods and services by foreigners in their local currency (e.g. NZ dollars). If NZ creates an environment where exports rise it will increase the demand for NZ dollars (NZ dollar appreciates).

Combined consideration

At the same time if NZ has low imports, it needs less NZ dollars to buy foreign currency to pay for its imports. This decreases the supply of NZ dollars (NZ dollar appreciates).

Overall from an economic point of view, higher interest rates, low inflation, and high growth and strong exports leads to a strengthening NZ dollar. The opposite of each of those factors leads to a weakening NZ dollar. When the economic factors are mixed e.g. high interest rates but high inflation or low growth, the direction of the exchange rate movement will be less predictable.

Speculation/sentiment

Whilst long-term exchange rates should be based on the economic fundamentals and reflect the relative position of New Zealand in the different cycles, human behaviour will also play a role, particularly short term. Speculation and sentiment will affect the daily exchange rate and may cause substantial deviations from what might be expected economically.

We should also remember:

- NZ is a small economy. We are therefore generally considered to be a “price taker”, i.e. the global market determines our exchange rate. Therefore the economic analysis may be dominated by global decisions (e.g. political or speculation).
- the NZ Reserve Bank has signalled that it is interested in having the capacity to intervene in the foreign exchange market to influence the level of the exchange rate. The intention, application and effectiveness of this proposed policy has not yet become evident.

Overall

Being able to calculate/predict with accurate foresight the magnitude of each of the above factors is virtually impossible, this supports the fact that currency movements are random, and that the a currency strategy should be based on “principles” instead of trying to “game” the market unless there is a higher level of due diligence and governance applied.

It is the combined effect of all of the economic and human factors, that results in money flow and it is the money flow which determines the exchange rate at any point in time.

The law of “**demand**” - if all other factors are equal, the higher the price of a good/service the less quantity people will demand.

The law of “**supply**” - if all other factors are equal, the higher the price of a good/service, the higher quantity people will look to supply. However, unlike the demand relationship, the supply relationship is a factor of time. Time is important as suppliers cannot always react quickly to a change in the demand or price.

Equilibrium. When supply and demand are equal, the allocation of goods services is at its most efficient as the goods being supplied equal the goods being demanded and everyone is “satisfied” with current economic conditions. In practice this is a theoretical position and the supply and demand will be constantly fluctuating.

Ethical investing

- an introduction

June 2011

Businesses and other organisations operating within an economy need capital to finance their activities. Investors supply that capital directly or indirectly via the cash, bond, property and share markets, depending on their investment strategies. The investment strategy (i.e. mix cash, bond, property and shares) reflects the investor's liabilities. Normally, having set the investment strategy, the traditional goal is to secure an appropriate financial return.

For some investors, having a focus that goes beyond the financial return and looks at the wider social or community impacts and the activity that is the source of the return, is also important. Having a social focus can be a way for investors to use their capital to obtain not only an appropriate financial return but to promote the ideas and values what are important to them. This is known as "ethical investing" though there is often a range of terms used.

This naturally raises a range of questions - what does ethical investing mean? Who should have an ethical policy? How is it implemented and does it affect returns short-term, or long-term?

Market terminology

Within the market, there is a range of expressions used that are often inter-changed. For example, "socially responsible investing" (SRI), "responsible investing" (RI) or investing by reference to "environment, sustainability and governance" (ESG) considerations. Each involves ethics, social responsibility and future sustainability to different degrees. Each can mean different things to some people, but often cover similar concepts. In this article we will call this approach "ethical investing" and recognise that each investor will use the term that they feel best describes their situation and will adopt the term to their beliefs.

While "ethics" typically incorporate values, morality and human rights, responsibility will extend these factors to include how individuals and businesses act in the wider community (local or global) across a range of social issues. Sustainability, on the other hand, incorporates environmental and business sustainability, along with "good governance" practices.

While there has been a trend in some areas to define business sustainability and good governance as a "responsible investment" it is probably better to view these factors as sensible investment considerations and part of risk management, rather than ethical investment in the true sense. Would any investor wish to take on blindly, the risk of investing in a company with poor governance?

Investor definition

If an ethical approach is to be successfully adopted, having a clear understanding and agreement within the decision makers of the ethical objectives and standards important.

While an individual may have little difficulty in defining their personal beliefs and what is important to them, the same is not always clear cut for an organisation. There can be a significant difference between an individual investor's values and an organisations, e.g. a trust, where a group of trustees (individuals) are making collective decisions for that trust and its principal purpose. Distinguishing between what trustees may do as individuals and what they should do, as trustees, is important.

"Ethical" investing integrates an investor's personal beliefs and values, with traditional financial and economic considerations, when making investment decisions. It does so by incorporating "belief" criteria into the buy/sell decision process. It shifts, from the single goal of "maximising the return for the level of risk", to also having regard to the social impact.

The ethical investment policy of an investor will be evidenced by actions and behaviours and not seen by words and intent

What constitutes one person's values, is not necessarily the same as another's. This is true even if they have the same end goals. For example, one person might choose to invest in an alcohol manufacturing company that has a positive stance on promoting responsible drinking practices. Another might choose not to invest in that same company, because they oppose alcohol use at all levels. Both investors aim to reduce the adverse impact of alcohol abuse on the community.

Manager implementation

How an investor ethically invests will depend not only on values but also on what is practical and achievable. It typically involves the use of an investment manager and/or a specialist SRI researcher. Having an understanding of how managers incorporate ethical considerations into their research and decision process becomes important.

When investment managers choose stocks for an ethical fund, they need to look at the stated ethical elements of the investment relative to the investor's objectives, at the same time as they look at the financials. They must do this while recognising that they still need to produce competitive and explainable returns.

A manager typically does this, with a number of additional steps and resources. Firstly, companies must meet the standard investment criteria (e.g. quality management, business advantage, appropriate debt levels, growing earnings etc.).

Without being sound financially, the potential to produce competitive and prudent returns is compromised and it doesn't matter how ethical the company is.

After passing the initial investment criteria tests, companies are then assessed on a range of social and ethical issues to determine their potential suitability. This will overlay a filter process of various negative and positive ethical "screens".

Negative screening will look to exclude defined investments depending on the interest area or ethical objective. For example, companies whose business activity include some of alcohol, gambling, uranium mining, weapons, animal testing, genetically modified organisms, human rights violations and environmental degradation might be excluded.

Positive screening may be applied to emphasise certain investments. For example, companies that make a positive contribution, or set a standard, in areas such as the environment, human rights and philanthropy and may include areas like good accounting, corporate governance and marketing practices.

Having established the list of investments that meet both the investment criteria and ethical criteria, further research to identify the "best" of the group is required. Alternatively, the investor might simply, at this stage, adopt a passive approach. After that, the portfolio can be constructed.

Ethical investing therefore introduces a new research layer to the overall selection decision process relative to the past. It also introduces further requirements to the ongoing monitoring process. Both of these may lead to additional costs though if they are not currently done as part of the investment process, the quality of the investment decisions may be lower.

What should be the investor's policies for the investment of capital in the areas of:

- Alcohol?
- Animal welfare?
- Arms/weapons/defence?
- Community citizenship?
- Corporate governance?
- Employment practices?
- Environment?
- Gambling?
- Human rights?
- Mining?
- Tobacco?
- Uranium?

What causes should be supported?

A manager's ethical investment process may also involve "engagement". Under engagement, the investor actively promotes ethical behaviours and looks to establish discussions to encourage the company to improve its practices in the ethical area.

Using a manager to implement ethical investing may involve compromise. To obtain economies of scale, a manager will have to adopt ethical standards that will have broad appeal. For some investors, this will exclude investments that they might otherwise be happy with. This will be the price of being able to implement what is important to them in an efficient, more cost effective way than doing it themselves.

Do we really know if an investment is "ethical"?

If we're focused on a particular issue - say environmental sustainability - we can promote this cause by buying shares in a company that also values the environment in the same way and, at the same time, by choosing not to invest in a company that damages the environment.

But do we know for sure what the specific practices of a company are and can we be confident that it will do what it says and will continue to do so consistently over time. If we're not confident, we could indirectly support a company that compromises our values. Ethical investing therefore requires a constant review of a company's practices, based on all new information as it becomes available. This involves additional research to verify the claims of the organisation. There will also be advantages in adopting an engagement process to work with the company's management to improve the ethical investment outcome. This will involve costs and may inevitably involve additional turnover of assets and transaction costs, as investments are sold, not for investment reasons, but on ethical considerations.

Will ethical investing reduce performance?

The answer is probably "yes", because of higher fees and costs. However, supply/demand considerations and market trends will mean that this is not always the case and it may take time to evolve.

Long-term, the average return achieved must correlate to the return a company achieves on its equity and the price investors are willing to pay for a dollar of future earnings and earnings growth. The questions therefore are, "which companies will achieve, long-term, a higher return on capital, have a more efficient balance sheet and have greater potential growth?" Will it be ethical companies?

From an ethical point of view, companies fall into three categories:

- **Excluded investments** - those that are screened out because of the sector they are in (e.g. say, tobacco).
- **Favoured investments** - those that are emphasised because of the sector they are in (e.g. say, environmentally friendly).
- **Neutral investments** - those that are not screened out and are not favoured. This category can then be subdivided into those that have better "ESG" practices and those that don't.

The questions that arise are:

- Will the excluded investments underperform favoured and neutral investments?
- Will favoured investments outperform excluded and neutral investments?
- Will better ESG practices of neutral investments outperform companies with lesser ESG practices?

Unless the answers are “yes” an ethical approach will not, long-term, outperform. Likewise unless they are “no” it shouldn’t underperform on average either.

However, there is no simple answer to these questions and it is unlikely that there will ever be sufficient evidence to be able to conclude one way or another. Many of the studies to date are short-term and time period dependent - the returns incorporate the impact of the increased demand for ethical investing, as opposed to simply higher sustainable returns.

While ethical investing may not alter the average gross return achieved, because of supply/demand changes and general cyclical factors, it will change the year-by year pattern over the long term. By screening out some potential investments, an investor may change the potential year-by-year return. However, to argue that it will alter the long-term average return requires evidence, for example, that a soft drink company will consistently underperform a water company i.e. have a lower return on capital. If this occurred for one or two years the price of the soft drinks company should reduce to improve the expected future returns for a new investor, otherwise the soft drink company will not attract new capital.

If companies that adopt ethical practices achieve a higher return on equity, all other companies will eventually follow suit as it is in the shareholder’s interests for the company to do so. Alternatively, the price of a company without ethical practices will fall to increase the future return to a shareholder.

Logic therefore suggests that the gross returns will be similar, provided the remaining universe of investments is sufficiently large.

Provided therefore, that the remaining range of investment opportunities (after excluding any for ethical reasons) is sufficiently large, there should remain sufficient high quality investments to ensure appropriate diversification and a competitive long-term gross return. The actual return over shorter periods will probably vary more, because of the exclusion of some investments, though this is also not certain.

However, the additional layer of research and monitoring required will in most cases lead to increased management costs. Given similar returns from the companies themselves, higher costs must result in lower long-term net returns to investors.

Consumer demands have already placed pressure on companies to operate in an increasingly ethical way. So companies are now valuing social responsibility together with their financial bottom line. By default, more companies are “moving” into the “ethical” sector. This provides a wider and more diverse group of investments and should bring the potential returns of ethical and non-ethical investments closer. It will ultimately reduce the need for significant ethical screening.

An ethical policy should stem from at least one of four aspects:

- ★ Purpose;
- ★ Reputation;
- ★ Belief, or
- ★ Expectation.

Purpose

What investment restrictions & policies will help meet the investor’s purpose? What should be restricted? What should be supported?

Reputation

What restrictions/policies need to be applied to protect the investor’s reputation?

Belief

What investment belief might improve the return outcome or mitigate risk? For example, might companies that adopt sustainable environment policies, or better human rights policies, be more profitable long-term? Policies that are based on belief may be opinion or evidence-based.

Expectation

What are the reasonable expectations of the beneficiaries (if any) in terms of what are appropriate investments?

The Global Compact's Ten Principles

The Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment, and anti-corruption: The Global Compact's ten principles in these areas are derived from:

- The Universal Declaration of Human Rights
- The International Labour Organisation's Declaration on Fundamental Principles and Rights at Work
- The Rio Declaration on Environment and Development
- The United Nations Convention Against Corruption.

*The real return
is a better
community*

Human Rights

Businesses should

- Principle 1: support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

Labour Standards

Businesses should uphold

- Principle 3: the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Businesses should

- Principle 7: support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Businesses should

- Principle 10: work against corruption in all its forms, including extortion and bribery.

www.unglobalcompact.org

The UN Principles for Responsible Investment (UN PRI)

The UN believes that institutional investors have a duty to act in the best long-term interests of their beneficiaries. In this fiduciary role, environmental, social and corporate governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time). The UN also recognises that the application of the UN PRI may better align investors with the broader objectives of society. Therefore, where consistent with fiduciary responsibilities, the UN PRI asks its members to commit to the principles of:

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the Principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the Principles.
6. We will each report on our activities and progress towards implementing the Principles.

Active and Passive investment management

- a general discussion

April 2012

Having determined the appropriate strategic (long-term) investment strategy i.e. the mix between cash, bonds, property and shares, the next step in the investment process, relates to implementation. In this regard decisions are required as to whether shorter term asset allocation decisions will be made and/or whether individual stock selection decisions should be on an active or a passive basis. This decision is not an either/or decision. It is often appropriate to implement a mixture of active and passive strategies with the active/passive decision being considered at both the asset allocation level and the stock selection level. A separate decision should be made for each.

The purpose of this paper is to provide general background information on the main arguments for and against passive and active investment management, where a decision on the approach is required. In some cases, a decision will not be required as the objectives or specific return requirements will dictate a particular approach.

For many investors the choice between active and passive investment management will depend on their past experiences, personal preference and the theoretical arguments. As with all investment decisions, no approach is necessarily wrong. Both active and passive investment management are valid approaches, under particular scenarios and both are widely used.

"I fully accept that for the vast majority of people who have no understanding of the drivers of long-term investment performance it is eminently sensible to follow a "passive" indexed approach."

Warren Buffet

"Active management" is where the manager/investor follows a process that makes conscious decisions to look to enhance the return above the average or general market return. An active manager seeks above average risk-adjusted returns overtime, by taking advantage of the inefficiencies within the market, and anticipating correctly the changing economic conditions and outlook.

"Active asset allocation" is often referred to as tactical asset allocation or TAA. TAA is where the manager/investor makes a conscious decision as to which asset sectors will perform better than others, in the immediate future.

"Active stock selection" is where the manager/investor makes a conscious decision about which stocks or securities, within an asset sector, will do better than the "average" stock within that sector, in the immediate future.

"Passive management" is the opposite to active management. The manager/investor adopts a buy and hold strategy and does not constantly try to "second guess" the market. It also is a term often used to refer to "index" management. "Index" management is where the manager/investor makes investment decisions strictly in accordance with a predetermined strategy to reproduce a market index return. Index management is a sub-set of passive management.

"Passive asset allocation" is where the manager/investor invests across the different asset classes in accordance with a predetermined benchmark or long-term strategy and rebalances back to the benchmark.

"Passive stock selection" is where the manager/investor invests within a particular sector on a buy and hold basis or in accordance with a market index. Particular stocks are held because they are appropriate to hold long-term or are in the index and not because they are thought to be particularly favourable. In the case of an index it may be done either by:

- "replicating an index" i.e. all stocks are held in proportion to the index or ;
- by "approximating an index" i.e. stocks are held so that the characteristics of the portfolio approximate to the characteristics of the index.

It is believed that overtime, the market will take care of itself and dominate returns.

The objectives of passive management are to minimise turnover costs, defer taxation (in some cases) and therefore provide an above-average risk-adjusted return net-of-tax and expenses, close to the market return.

Return theory

First some terminology. If you invest passively in accordance with a market index, the return achieved is the market or index return. This is often known as the “beta” of the market. In contrast, if you invest actively away from the index, or without regard to the index, with the goal to achieve a return above the market beta return, the additional return is called the “alpha” return.

Alpha can be positive or negative depending on whether the investment decisions prove to be correct or incorrect. The sum of all of the alphas of all the investors, must equal zero less the managers’ costs, as not all active managers can be successful, the total return must still be the market return.

Total passive return = beta
Active return = beta \pm alpha
Total active return = beta

The question is whether a particular investor should seek beta, or beta plus alpha. Knowing that at least half of the investors seeking alpha will not be successful.

The concepts of alpha and beta, is based on Sharpe’s capital asset pricing model under finance theory. Implicit in the theory is the investment belief that investors are compensated for taking on market risk i.e. they ultimately receive an additional return above the risk-free rate, over the long-term, for taking on the market risk. Therefore the beta return can also be considered to be the return available from cash and the market risk premium ultimately captured for shifting out of the greater certainty of cash.

Beta = cash return + market risk premium.

However, the return premium for taking on the beta risk is highly variable short-term and is often negative over short to medium periods. It may not therefore be realised, except for over very long periods of time. The beta return premium therefore, accrues, only overtime, to investors that consistently take on that risk and are willing to suffer long periods of underperformance.

Unlike beta, alpha cannot accrue for all investors who seek it. If one investor receives positive alpha, another must by definition receive negative alpha. The pursuit of alpha is a zero-sum game in which the gains (rewards) for one investor’s skill, are offset by the losses of another investor – and reduced further by transaction costs. It is therefore the relative and consistent skill and not absolute skill that is important.

To pursue alpha and therefore justify active management, requires at least three major beliefs/assumptions. That:

- manager skill exists and will be persistent; and
- opportunities to apply the skill exist in the market i.e. there is some level of market inefficiency;
- advance identification of managers with a future skill advantage is possible.

The fact that investors are not universally rewarded for taking on alpha risk also means that a different risk dimension is introduced into an investor's portfolio by pursuing alpha. This is both at times when the market is going up and going down, i.e. active management will not automatically result in better returns when the market is going down.

Active management

Successful active management of assets, hinges on an investor's ability to regularly select an active manager(s) that achieves a higher and positive alpha return ("adds value"). In this regard, value added is defined in terms of out-performance and success requires sustainable out-performance. Out-performance must be on a net-of-tax (if tax is applicable) and net-of-fees basis.

It can be argued that by objectively studying past performance and behaviour, and more importantly by qualitatively evaluating the capabilities of managers, it is possible to identify managers who will achieve out-performance in the future. Also, by regularly reviewing and changing the managers when required, sustainability can be achieved.

However, in practice, the selection of a manager who will be successful in the future is not guaranteed, particularly in the selection of a manager whose performance will be consistently above the benchmark in the future.

There are a number of reasons why this is the case and these form the basis for the arguments against active management and in favour of passive management. These factors concern the efficiency of the markets and market dynamics, the transaction and management costs, the quality of management and the reward for the risks taken.

Market efficiency

Most developed markets are considered to operate reasonably efficiently. This does not mean that they are correct or perfectly efficient. These markets are considered to be dominated by a large number of well-informed investors buying and selling securities with most of the information in the market is widely available. On this basis it is highly likely that, subject to supply and demand issues, the market price of a security will in general reflect its perceived prospects and therefore its current value. If this was not the case, the better informed investors (i.e. better active managers) would identify the difference and, by their actions (buying the under valued securities and selling the over valued ones), remove the difference. Due to this efficiency, it can be argued that consistent long-term out-performance by any manager is not possible except by luck or a significant skill advantage.

If markets were totally efficient, this would be the case. However, it is not possible for markets ever to be totally efficient. Historical analysis shows that at certain times inefficiencies can exist with regard to:

- small capitalisation shares;
- the smaller markets;
- securities not widely followed by broker research;
- the “human” factor.

This last factor, the emotions-of-investors is often stronger than reason. This creates an over reaction bias to positive or negative news.

Consequently, and for these reasons, there will always remain opportunities for some active managers to outperform, by developing a disciplined numerical and/or objective approach to the selection of investments. This raises the questions:

- what proportion of active managers can and will achieve out-performance? By definition not all can, as the average return still has to be equal to the overall market index return less costs;
- will the out-performance exceed the higher costs?;
- will the out-performance be permanent, or offset by underperformance when the market adjusts?;
- will the out-performance be sustained?;
- can the manager be identified in advance?;
- will the investor have the patience to remain with a manager through the inevitable periods of under-performance, while on a path to long-term average out-performance?;
- will the investor be able to identify the points in time when a previous above average manager, is about to “fail”?

The answers to each of the above will be a function of the degree of the inefficiency of the market and the qualities of the investment managers. In addition, the investor’s own decision process for selection and monitoring will be important.

There are a number of other issues relevant to the issue of market efficiency.

- while the portion of assets under passive management remains small, relative to the total market, it will not distort the market and itself create inefficiencies. However, if a significant part of the market moved to a passive approach, the scope for some active managers to add value would increase. The market needs active managers (i.e. buyers and sellers) to remain efficient.
- a sudden shift to passive index management, creates a danger of passive management driving the market and artificially inflating the market return. This will ultimately be reversed. This could create inefficiencies within the market. To be successful, passive management requires the market to be efficient. Therefore, a sudden shift to passive management may create market conditions which are unfavourable for it, and in which the better active managers could more easily outperform.

Also, the market efficiency arguments apply mostly to developed markets and then primarily to the larger capitalisation sectors of those markets. In other markets, or in smaller capitalisation areas of developed markets, where information is less or poor and institutional involvement limited, there is greater scope for adding value by proprietary research-generated information. To the extent that this is possible, a passive approach in these areas might miss these opportunities, but then not all active managers can out-perform the market or will have a proprietary research advantage. The alternative is to ensure that the passive management approach adopted includes an exposure to smaller companies.

Management quality

In many markets, fund managers (both domestic and offshore) dominate the market. It follows that this group is representative of the markets and the average manager reflects the average of the market. In this regard therefore, it is relative quality, that is important and not absolute quality, that will lead to out-performance. In reality, you might expect a minority of managers to have the quality to produce out-performance in the long-term, as most will produce both periods of out and under-performance. One of the reasons for this is that if one manager has below average qualities it will ultimately disappear, or will take action to improve its relative position. For this reason alone, achieving a competitive advantage and maintaining it long-term is difficult.

Successful active management, will only apply to active managers who:

- have a clear philosophy on how they can gain a competitive advantage relative to the market and how that advantage can be evolved and maintained, and
- have a systematic process that objectively implements the philosophy, and
- have a management style and structure to support their philosophy.

Risks

In order to generate out-performance, manager risk must be taken. In order for a prudent investor therefore, to accept the higher risk they have to decide what is an appropriate additional level of return to compensate them for it. By definition only a proportion of the above average managers will be able to achieve this additional higher return requirement.

Also, the pursuit of out-performance will lead to a pattern of under-performance as well as over-performance, relative to the market and consistent above market results will only emerge in the longer term.

This makes it difficult to identify how much of the value added by the manager was due to “skill” and how much was due to “luck”. Even the best active managers will at times achieve poor results and vice-a-versa.

From a risk/return perspective, it is questionable whether the additional returns sufficiently reward investors taking on active risk.

Transaction costs

Passively managed funds involve fewer transactions and therefore have lower transaction costs, lower market impact costs and lower custody costs relative to active management.

A major contributor to the under-performance of the average active manager is the costs incurred in buying and selling securities in pursuit of above-index performance. Costs in this context relate to brokerage and the market buy/sell spread. This reduction in performance is likely to be of the order of 0.5% to 0.75% per annum for a typical equity portfolio. As professional investment managers are responsible for the vast majority of transactions in the market, it follows that the “average” investment manager will under-perform the market index over the long-term by the same margin. It also follows that a portfolio constructed to track the index will perform, on average, slightly better than the average active manager, because as an index tracking portfolio it will not incur the same level of transactions costs.

For active managers to outperform the index (and outperform index tracking portfolios) consistently, they must overcome the transaction cost hurdle by making decisions that are of above average quality. Not all active managers will be able to do this by definition, and those that can may not be able to do it consistently over the long-term and over all parts of the economic cycle.

Management costs

Manager fees for index tracking management are generally lower than those for active management. The lower fees arise because passive managers do not need to maintain the same expensive research facilities. Passive management is mechanical.

The difference in management fees between passive and active management is likely to be somewhere between 0.2% per annum (for a very large fund) and 0.7% or 0.8% per annum for smaller funds.

In addition to manager fees, investors must also consider associated costs such as audit and consultant fees. These will also be typically higher for active management.

Taxation considerations

Taxation implications may also be a factor to the active-passive decision for direct investors who are taxpayers i.e. those that do not use products or managers. This arises because increases in the underlying share prices from direct passive management do not arise from trading activities and are therefore not taxable as income. Therefore, for these investors, active management must overcome the higher costs and the need for value added and must generate sufficient added value to offset the long-term tax consequences of active management and trading gains.

For managed products however, this is now less of an issue in New Zealand as both passive and active products can be set up to have the same tax structure.

Volatility

While the concept of the potential for greater variability of passive returns is true, when an active manager does add value the active process itself can, and often does, introduce additional volatility, so it is not certain that passive management will always be more volatile.

Passive management

The advantages and disadvantages of passive management are naturally counter-arguments to those of active management. The main objections to passive management lie with emotion and greed. Some investors cannot accept the concepts of:

- receiving only "market" performance, or
- that, through thorough research, under valued securities cannot be identified, or
- the requirement to invest in an identifiable poor stock, just because it is in the index, or
- doing nothing when the market is going down, or
- that managers don't know what they are doing.

The main argument for index-tracking stock selection is that the average active manager has not and does not appear to be able to consistently outperform the representative market indices. Passive management therefore delivers market index performance at lower cost and must by definition be above the average manager on an after-fees basis, particularly over the long-term.

The merits of passive management for many investors are still not widely accepted. Amongst other reasons, active managers must promote the merits of active management, at the expense of passive management, to protect their income stream.

So, should it be passive or active?

First, it should be reiterated that, the “active versus passive debate” is not an either/or question. It is a question of what is best in particular circumstances. As both approaches lead to a different pattern of returns, it is a question of which approach provides the pattern of returns that is more appropriate for the investor’s liabilities and which is consistent with the governance structure of the investor.

It is also an issue that should be considered primarily on the basis of principles and beliefs and not on the basis of short-term returns, or on the basis of hope. In most cases, the right answer for an investor depends on issues such as:

- **timeframe.** Over what timeframe will the capital be invested or the returns evaluated.
- **available time.** What time does the investor have to undertake due diligence of managers and to monitor outcomes etc.
- **skills.** What skills does the investor have, or can efficiently buy in.
- **outcomes.** What outcomes does the investor want? For example, what pattern of returns relative to the market and to other investors and to the cash rate (say), are ideal?
- **risks.** What risks is the investor prepared to take, in the pursuit of extra returns?

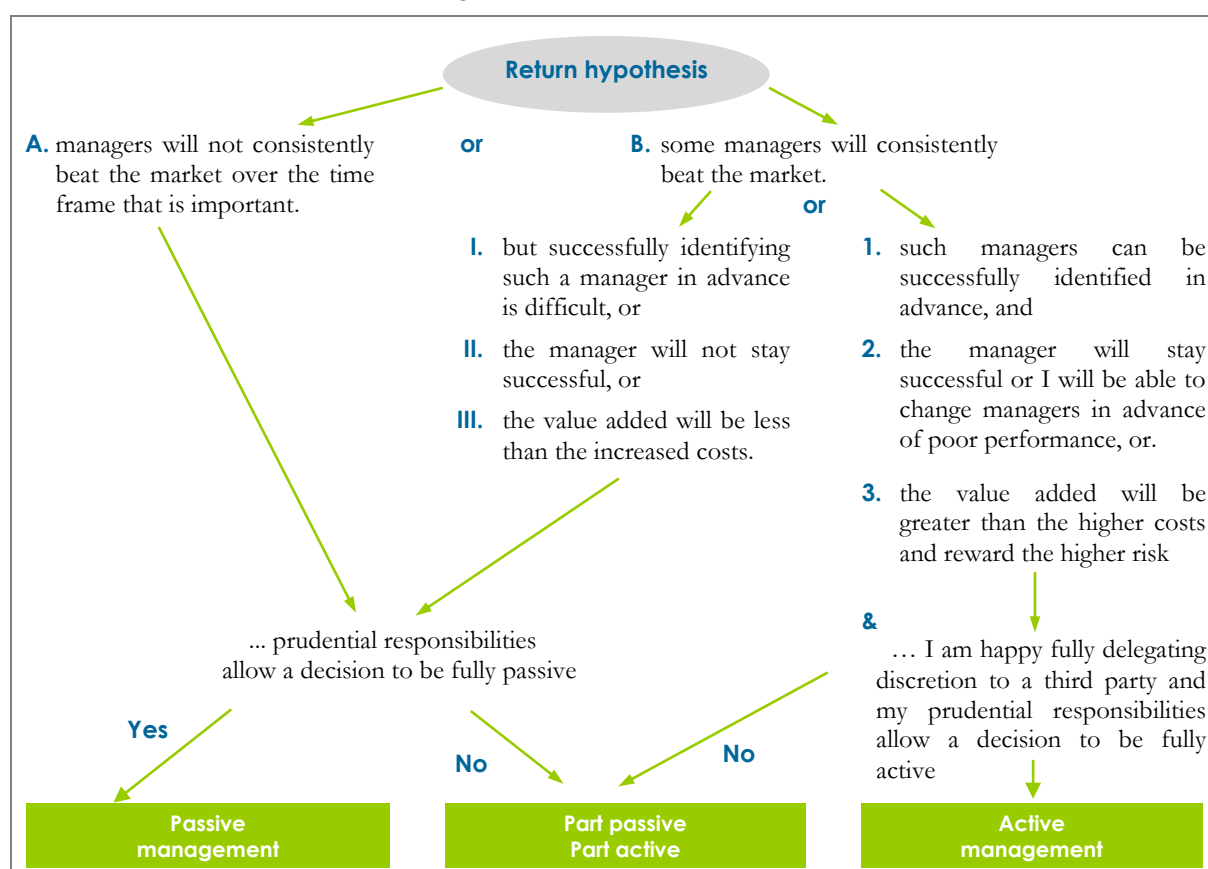
Appendix – Characteristics and decision process

The characteristics of each approach are:

	Passive management	Active management
Return outcome:		
• Variability of total absolute returns	high	medium to high
• Income return	equal to market	variable
• Capital growth return	equal to market	variable
• Out-performance of market	no	possible
• Under-performance of market	no	possible
• Outperform average investor	yes	possible
Costs:		
• Portfolio turnover	low	high
• Transaction costs	low	higher
• Custody costs	low	higher
• Manager fee levels	low	higher

Decision frame work

A decision framework to help clarify the decision process is set out below. Investors should also consider their current arrangements and the nature of their liabilities.



Smoothing policies^{nt}

- a general discussion

June 2011

When the investment strategy of an investor moves away from 100% cash assets, into bonds and/or shares, the long-term expected return increases, but so does the range of likely returns over the short-term including the probability of a negative return. A consequence of the increased short-term variability of returns is that, while long-term the average return may be equal or above the objective, the short-term return may be insufficient to meet the immediate liability/cash flow needs. The challenge for investors therefore, is to develop policies so that the short-term liabilities can be met, while maximising the long-term return, despite the short-term return volatility. Successful investment policies require investors never to be in a position where they are forced to sell assets when the market is down.

From a liability perspective, the need of many investors is a pattern of consistent returns. In contrast, from an investment perspective, the pattern of returns is one of ups and downs around the level required. In many cases, the years where the returns are below the ideal, problems do not occur. However the consequences can be significant for funds where a steady stream of increasing income is required. Without a steady stream, the resulting distributions fluctuate and expenditure programmes cannot be met or committed to. This is the situation of many charities. While one option is to focus the investment strategy on cash and short dated bonds to create more certainty of returns, such a solution raises two issues:

- the resulting average investment return is normally lower, thereby reducing the ability of the fund to maximise distributions.
- the resulting investment return produces no natural growth in capital values. Accordingly part of the income return needs to be retained to protect the capital from the effects of inflation.

Overtime therefore, the impact of a cash focussed strategy is to limit a long-term fund's ability to make grants in real terms and is an inefficient use of the fund's assets, though there are times when this will be the optimal approach.

Alternative options include:

- incorporating a limited level of longer dated bonds and shares in the strategy, and accepting the underlying variability in capital values. Under such an approach income is produced for immediate needs and modest growth occurs, over the medium term. While this improves the long-term return, it is still less than optimal, because of the limited exposure to "growth" assets. The strategy will still result in short-term return variability, and falls in asset values, which may also be unacceptable.
- adopting a long-term strategy with emphasis on growth assets, and introduce a formal smoothing policy such that the short-term volatility is taken up by an investment fluctuation buffer and not by lower distributions in a bad year. This lets the trend in the underlying capital to grow year to year, and for the intended distributions to be made without jeopardising the capital.

A smoothing policy lets investors reduce the impact short-term market fluctuations in asset prices have on the ability of a fund to achieve its short-term objectives (i.e. make distributions). Without a smoothing policy, movements in asset prices directly impact on the ability to achieve the year-to-year distribution objectives.

Such an approach may not be optimal for all funds, and for some is an unnecessary complication. However for many, it will be the difference between the fund achieving its goals and not achieving them. A sample smoothing policy is set out at the end.

The aim of a smoothing policy is to create from the assets of the fund (\$A) a capital base (\$C) that grows over time (e.g. by G% p.a.). This provides a stable foundation. It is then possible to determine a distribution policy such that an amount equal to D% of the capital base is distributed each year to meet the liability objectives. As the capital base increases each year by G%, the distributions increase by G%.

Because the capital base grows, the resulting distributions, if expressed as a percentage of the capital base, grow. The difference between the capital base and the actual assets i.e. $\$A - \C forms, at any point in time, the investment fluctuation (\$R). This will fluctuate and may be negative.

Having an investment fluctuation buffer does not change the actual return. Short-term returns will still be volatile, though the volatility is absorbed by the buffer ensuring that the ability of the fund to meet its distributions, is not prejudiced. The requirement for the buffer therefore, is such that if the investment return is poor the fund can still grow the capital base, meet the intended distributions and ensure that the market value of the remaining assets is above the capital base. We probably want the market value of the assets to be at least m% above the capital base and we probably want this to occur with at least p% certainty. For example we want the market value of the assets to be at least 5% above the capital base with 95% certainty.

The presence of an investment fluctuation buffer to take up the short-term volatility, lets a long-term investment strategy to be adopted. This is the real advantage as it maximises the average return and therefore future distributions.

The level of the investment fluctuation buffer should be actively managed to ensure that the capital base is not jeopardised and that the investment fluctuation buffer does not grow too large and raise intergenerational equity issues. If the investment fluctuation buffer exceeds the level required to protect the capital base, either extra immediate distributions can be made, or the capital base can be increased thereby increasing the distributions for the future. The issues for discussion therefore relate to what are the ideal minimum, maximum and optimal levels for the investment fluctuation buffer, given the level of distributions and required certainty.

What is the appropriate growth level (i.e. G%)?

In most cases investors will wish to protect the capital base, and therefore the distribution level in real terms relative to inflation. General price inflation would normally be used for this purpose. However in some cases it will be appropriate to protect the capital base against:

- specific components of the inflation rate (e.g. medical inflation)
- wage growth where wage costs are the major cost component of the grant recipient
- economic growth
- employee number or population growth

There is no single answer and a combination may be appropriate. Often it is better to aim at a particular level but adopt a flexible approach in terms of implementation.

What is the optimal buffer level?

The optimal margin is the level that protects the capital base from a major down-turn in the markets. It is therefore a function of the investment strategy, the distribution policy and the level of “risk” that the investor is willing to undertake. By risk we mean the probability, an investor will tolerate, for the actual market value falling below the long-term capital base. If this event happens the fund is not in a position to meet the intended distributions. There is best explained by way of an example.

Assume that the fund is a non-taxpayer and starts the year off with a capital base of \$C (e.g. \$100) and an investment fluctuation buffer (\$R) of R% of \$C (e.g. 20%). The total assets are therefore \$C + \$R (i.e. \$A = \$120).

At the end of the year we want to grow the capital base by G% (e.g. 2% for inflation) and throughout the year make distributions and we incur operational costs of D% in total (e.g. 6%) of the capital base. 6% of the capital base is the same as 5% of the total assets i.e. $6\% \times \$100 = 5\% \times \$120 = \$6$.

We also want to ensure that irrespective of what actual return we make (I%) we still have assets at the end of the year above the capital base; ideally at least m% above the capital base (e.g. 5%) with 90% certainty. This provides protection for the capital base for the future.

Given the above, over the next year we want to spend \$6 and to allocate \$2 to the capital base, to make it \$102. We also want to have a further minimum buffer of \$5 at the end of the year, i.e. \$107 in total (\$100 + \$2 + \$5). Starting with assets of \$120, provided the investment return is above -\$7 we will stay above \$107 (i.e. $\$120 - \$6 - \$7$) at year end, and the goal will be achieved despite a poor return. A -\$7 return is equal to -5.8% of \$120.

If an investment strategy with 65% exposure to shares, 30% to bonds and 5% to cash is adopted, the expected return after-tax and expenses, in the current environment, is 8.7% p.a. and the volatility of the annual returns, as measured by the standard deviation, is 10.3% (source *iModel.mca* 1 April 2010). The probability of such a strategy producing a return below -5.8% is 8% (i.e. there is a 92% probability it will be above -5.8%). If this was an acceptable level of certainty, then 20% is the ideal target buffer level and around this level minimum and maximum levels of, say, 5% and 25% respectively can be defined.

If the probability, at 8%, that the return is less than -5.8% is too high, then either the distribution level has to be cut back, or the exposure to shares reduced, or the target buffer level increased. For example if the target buffer was 25% of the capital base the probability of failure (i.e. the assets falling below 105% of the capital base) is below 5% i.e. there is a 95% chance of success.

Table 1 sets out details of the required buffer levels for different strategies ranging from 40% to 80% exposure to growth assets, assuming the minimum assets level with 90% and 95% confidence is 105% of the capital base. The calculations allow for growth of 2% p.a. and distributions at the long-term theoretical level. If distributions are at lower levels, then lower buffers can be held.

Table 1

	Percentage allocation to growth assets				
	40%	50%	60%	70%	80%
Long-term distribution level (% of capital base)	5.7%	6.1%	6.4%	6.8%	7.1%
Buffer required at:					
90% confidence	15.6%	17.3%	19.3%	21.5%	24.0%
95% confidence	18.9%	21.3%	24.1%	27.2%	30.7%

Sample smoothing policy

The following paragraphs set out a summary of a sample smoothing policy.

In terms of the fund, \$C as at 1 April 2011 will be considered to be the fund's "capital base". The balance of the assets i.e. \$A less \$C will form the investment fluctuation buffer. Further money raised for the purposes of the fund will be allocated either to be part of the "capital base" or to the "buffers" as determined by the trustees.

The fund's capital base will be adjusted each year by the trustees, subject to a minimum of the change in the National Average Wage (NAW) index, to protect the fund's capital base against the effects of inflation.

Each year, any investment proceeds available after allowing for wage inflation and applications by the trustees in terms of their distribution policy will be retained as part of the investment fluctuation buffer, and invested along with the capital base assets according to the long-term benchmark strategy.

Each year the trustees will review the current level of the investment fluctuation buffer and confirm the ongoing appropriateness acknowledging that there will be positive and negative flows from the investments.

The trustees' initial views in relation to the long-term investment fluctuation buffer's appropriate level are:

- the fund's investment policy contemplates an asset allocation across market areas which are likely to demonstrate short-term volatility from time-to-time.
- to ensure the capital base is insulated from these fluctuations, the trustees will seek to maintain an "investment fluctuation buffer" over and above the fund's capital base.
- the trustees will seek to develop and maintain the investment fluctuation buffers at an "optimal level" of G% above the capital base.

- if the investment fluctuation buffer falls to a level that is less than m% above the fund's capital base (measured at the end of the previous year) specific advice will be taken on the investment outlook to determine what, if any, action needs to be taken in terms of either the investment strategy or the distribution policy to protect the fund's capital base.
- where, at the end of a financial year, the investment fluctuation buffer exceeds M% of the fund's capital base, such surplus may be taken into account by the trustees in applying their distribution policy or allocating money from investment fluctuation buffers to the capital base. The trustees will only do so after taking specific advice.

Having determined the optimal investment strategy and manager structure, the next step is the appointment of investment manager(s). The objective is to find the best investment manager(s) to maximise the probability that the actual return outcomes achieve the objectives.

Successful manager selection requires a process that provides objective analysis but allows personality and attitude to be displayed. Put simply, the selection of an investment manager is no different to the appointment of a key employee.

In the appointment of a senior executive you:-

- define the role/position;
- identify the qualities needed;
- advertise or approach suitable candidates;
- put each candidate through a rigorous evaluation and selection process;
- reference check;
- appoint the best candidate for the job, and
- agree performance standards and contract terms.

This process should also be adopted for the selection of an investment manager. Like key employees, investment managers are highly remunerated for their services and high standards of skills and accountability should be expected.

Characteristics of a “good” manager?

Performance is the product of the investment decision process. What is important in selecting a manager is to assess the manager’s process, its ability to consistently apply it, the factors that will influence it, and its compatibility to the investment policies and expectations.

Generally there are four behaviours that a good manager will show:

- a clear decision-making process;
- sufficient personnel of high quality, and with continuity;
- good management in a business sense; and
- a strong internal review and evaluation process.

These attributes are expanded on under the section “characteristics of a good investment manager”. If a manager exhibits these attributes regularly, there is a higher probability that the future performance will achieve the required objectives.

Requirements of the right manager

Of the identified “good” managers, the right manager must also fit the role required. The manager’s style must be compatible; the manager must understand the liabilities and the manager must be able to bring its resources to deliver service. It is the synergy created by the parties that will determine the necessary trust, and ultimately place one good manager above the others.

The best investment firms...

... Employ excellent people

- who have top quality intellect, commitment, balance individual and teamwork skills.

... Work on focused investment processes

- with a clear competitive edge in philosophy and research

... Are well run businesses

- with a business plan that is consistent with the needs of the current clients.

Manager selection

Manager selection is an uncertain area. One manager is better than another, and the best for the future is really the manager with the highest performance for the past. The successful selection of a manager requires a combination of a methodical process, and consistent criteria that enables objective analysis.

The section “the selection process” suggests a process and expands on the concept of “selection criteria”. However, investors often make the final selection decision based on “intangible” qualities. Even when this occurs, the intangible qualities are supported by the knowledge that the manager has the necessary expertise, past experience and exhibits the accepted “good” investment qualities.

The characteristics exhibited by good investment managers fall into four main areas:

- a clear decision making process;
- quality people;
- business management, and
- their internal review process

Clear decision-making process

The decision-making process can be broken down into four steps; the manager’s philosophy, research process, decision structure and the decision itself.

It is important that the manager has a disciplined approach to investment management and that this is not only consistently applied but is also flexible enough to cope with changing markets and to allow controlled flair. The process starts with a clear philosophy and style, and a framework for making investment decisions. The philosophy and style is the method by which the manager intends to add value. Its view on how the markets work and how it can gain a consistent advantage.

To back up the philosophy the manager must have a specific approach and access to top research (both internal and external). While quality research on a timely basis is important, with technology and information transfer, more important is the way in which the research is then developed and used to provide the manager with an advantage relative to the market.

The decision structure is characterised by how, who, and when decisions are made, and the levels of authority and accountability. At all stages the communication lines must be efficient and an organisation must strike the balance between sole decision-makers and committee decisions.

The decision structure covers the asset allocation strategy, the research, the final stock selection or buy/sell/hold decision of individual securities and the implementation of the decision. The importance of the buy/sell/hold decision should not be underestimated. Managers having established the overall guidelines and structure often fail by a lack of discipline or conviction in the final decision, often holding a security that has previously performed well too long. All managers should be asked what makes up the final buy/sell/hold decision.

Quality people

In terms of personnel what is important is the level and depth of expertise and the continuity of the investment team. In New Zealand it is the norm, even in the larger organisations, that the investment personnel are limited to one or two key individuals. The size of the market rarely allows managers to have large local teams.

To back up the key staff, good managers must have an environment that encourages all staff to perform and should have a stable team to ensure continuity of investment strategy. Personnel must be knowledgeable of the legislative investment criteria and have an understanding of the liabilities of the investor.

Business management

The investment team must be supported by strong business management, appropriate technology and support staff in terms of accounting and back-up functions. Likewise, appropriate systems for “people management” in terms of maintaining the right environment, extracting top performance and business planning in terms of growth, marketing and overall operations.

Its HR policies and in particular its remuneration policy must create the right behaviour patterns.

Internal review process

In today’s markets change is the norm. A manager’s investment advantage disappears as quickly as it arises. We can all learn by evaluating the reasons for past decisions relative to the resulting outcome. An objective internal assessment process is important.

The philosophical (“added value”) approach should evolve as opposed to stay constant. A good manager must have the ability to objectively stand back and continually evaluate the reasons for performance, the decision process, the personnel requirements, and the management of its organisation. While this function could easily fall under the strategic plan side of “management” a good manager should have in place the necessary systems so that the organisation continually evolves.

The internal review process should also extend to monitoring the discipline measures by which the decision-making process is adhered to

The selection process

There is no single answer to the correct methodology to select a manager. The key component is not to rush the selection, to determine in advance the expectations and to remember that you have the ultimate responsibility, not the manager.

Investment managers are selling future performance. At the selection stage you see the performance that has already been sold. What is important is that you understand the process which the manager will use in the future to produce future performance relative to the past process and its outcomes.

It is the process that must be evaluated. How did it relate to past performance? How will it relate to future performance? Is it still appropriate? Are the people the same? Does the manager have the resources to deliver? It is important to remain objective and appraise the answers of one manager against another.



The selection pathway

Knowing the attributes you are after is one thing, identifying them in a manager is a lot harder. While there is no guaranteed process, a suggested selection pathway is:

Role definition

Before a manager can be selected, the requirements and standards to which the manager must comply with should be identified.

The starting point is the job description (or investment policy statement). This involves:

- identifying the nature of the liabilities;
- documenting, if any, the prudential investment constraints;
- quantifying the investment return objectives;
- establishing reporting and communication requirements;
- establishing review criteria and minimum standards.

The investment policy should not be seen as rigid. There are advantages in seeking comments on the role definition from the potential managers as part of the selection process.

Identify requirements

In addition to the minimum standards identified in the role definition, the requirements in terms of number of managers, preferred style of operation, and investment vehicle (pooled or individual) must be determined. It is also at this stage that the specific evaluation criteria should be identified.

Identify possible managers

Some managers will not fit the role definition or meet the minimum requirements. These managers can be quickly eliminated. The use of an outside specialist in this area can save time.

Seek written submissions

One of the best ways to obtain submissions is on the basis of a short standardised questionnaire. The advantages are:

- responses are more relevant (glossy brochures often contain only the sales pitch);
- submissions received in a standard form will help the evaluation stage;
- in developing the questionnaire you are already thinking about the evaluation criteria.

In seeking submissions, you should provide prospective managers with as much information as possible; this leads to the submissions having greater relevance, and being more focused on the intended role. It will also help identify which managers understand your needs.

Evaluate submissions

The purpose of the submissions is to fine tune the prospective manager list, to obtain background information and to begin to assess the managers against the selection criteria. The output of this process is a shortlist to be interviewed and a profile on each. If the evaluation is done thoroughly, it will save time at the interview stage.

Summarised comparative charts and tables should be developed. It is also a good idea for every decision maker to see the submissions so that they get an overall feel for the manager.

Verbal presentations

Interviews should be strictly chaired and divided into brief formal presentations and questions. Two way discussion is more useful than the formal presentation. In advance of the interviews prepare standard questions and use a check list to ensure each manager covers all points.

Managers are best interviewed one after another over one day. Each manager shall be discussed immediately following the interview and decisions should be made while information is fresh. Care must be taken to discount the sales pitch and not to give the last manager an advantage over the first seen or vice-versa.

Often it is advisable to hold several verbal presentations as with each discussion new information comes to light and the intangible strengths will be reinforced.

Interview prospective manager at its office

Before making a final decision it is a good idea to visit the manager's offices to meet the investment team as a whole (i.e. not just the marketing or very senior staff) and see the operation. This will add to the understanding of the investment process and give a feel for the manager's environment and how the staff interact.

Final decision

Avoid hesitating at the final selection stage. The normal reason for this is uncertainty on the selection criteria and the role definition. A useful tool is to rate each manager against the selection criteria by means of a matrix. If nothing else this quantifies subjective views. By doing the necessary evaluation, the managers at the final selection interview should all have demonstrated competence and have the necessary people and disciplined processes; i.e. all have the necessary “good manager” qualities.

Finalise implementation

Having appointed a manager it is time to finalise and agree the mandate, to finalise the contract, to settle the immediate investment strategy and objectives, to discuss transitional issues, to determine the frequency and times of meetings and to implement the day to day administration and reporting procedures.

Selection criteria

Generally the selection criteria come from the components that make a manager good, such as the appropriateness of the manager’s philosophy and the organisation’s structure and personnel. Confidence in these aspects of the manager is needed. Other aspects which should be considered in the final selection are:

Reporting

The manager must be able to meet the reporting and accounting requirements. The reporting systems must be robust and not rely on human manipulation. Also, the manager must be committed to working with and for the client.

Performance

The ability of the manager to maintain consistent performance and meet or exceed agreed objectives for the future. The use of historical performance statistics must be treated with caution.

Fees

The fee structure must reflect the service and ensure value for money. Any comparison of fees should include all direct and indirect fees and adjust for tax inefficiencies etc.

Contract provisions

The contract must accurately reflect the investment arrangements, responsibilities, liability and indemnity provisions. The termination provisions should also be appropriate. In many cases it may be better to develop your own standard contract.

Intangible aspects

These will be individual to each decision maker and may include levels of confidence, ability of the manager to assist you in your responsibilities, the personality and style of the manager, etc.

The above criteria are by no means exhaustive but have been designed over the years to assist investors in the selection process.

The previous discussion relates primarily to the selection of an active manager. In today’s environment many investors are better served by a passive or buy and hold approach. In such cases while process and a well run business are important, more important are efficiency, security and cost considerations. Size and therefore economies of scale are also key determinants.

iSelect.MCA

Investment manager selection

Manager evaluation matrix

Investment manager evaluation matrix

Manager											
		1		2		3		4		5	
Factor	Weight	Score (out of 10)	Weighted score	Score (out of 10)	Weighted score	Score (out of 10)	Weighted score	Score (out of 10)	Weighted score	Score (out of 10)	Weighted score
Business	10										
Investment process	30										
People	20										
Past performance	15										
Suitability	10										
Quality of service	5										
Fees	5										
Confidence/ intangibles	5										
Total score	100										

Decision

5 key reasons for decision

1.

2.

3.

4.

5.

Rating factors

We suggest a rating scale from 1 to 10. While the absolute rating is important, what is more important is to evaluate the managers on a relative basis.

- 1** Totally unacceptable. If a manager receives a '1' on any aspect it should be eliminated from further consideration.
- 2** Unacceptable. If a manager receives a '2' on any aspect it will be eliminated unless it is considered that within a short space of time it will become acceptable and there are other advantages.
- 3 to 10** Acceptable standard with a rating of 10 being highest.

To assist in the evaluation of each manager in respect of the key factors and to complete the matrix on page 1 the factors can be evaluated individually by using the same rating scale in the tables below.

Manager

--	--	--	--	--

--	--	--	--	--

Business management

Stable ownership					
Commitment to market					
Investment focus					
Clear business plan					
Plan for managed growth					
Alignment of interests					
Staff remuneration					

People

Backup/depth					
Calibre					
Experience					
Stability of team and key staff					
Environment					
Morale					

Investment process

Clearly articulated investment philosophy					
Research					
• access to timely market data					
• value added use					
• proprietary research					
Decision structure					
• structured formal process					
• clearly defined decision criteria					
• efficient application					
• clear accountabilities					
• empowerment					
Implementation					
• efficient trading					

Historical performance

Overall					
1 year					
3 years					
5 years					
Consistency					
Value added					
Risk reduction					
Key sectors					
NZ shares					
Overseas shares					
NZ bonds					
Overseas bonds					
Property					

Manager

--	--	--	--	--

--	--	--	--	--

Suitability

Ability to meet trustees' plan objectives					
International investments					
• efficiency					
• currency management					
Appropriateness of investment vehicle					
"Brand" name					

Fees

Manager fees					
Additional costs e.g. audit etc.					

Quality of service

Communication					
Reporting					
• Accounting information					
Client service person					

Confidence/intangibles

Confidence					
Clarity of thought					
Ability to assist trustees					

Having determined the appropriate investment policies and strategy, and selected the investment manager(s) the important task of monitoring the manager(s), the markets and the resulting performance begins. While it is tempting just to leave a manager alone for three years, and allow him/her to get on with what they have been appointed for, the "wait and see" approach just isn't prudent. Prudence requires trustees to actively monitor and evaluate performance. In addition to prudence, there are additional advantages to be gained by appropriate monitoring other than simply knowing the return achieved.

The benefits of monitoring performance

There are a number of benefits achieved by monitoring and reviewing performance including:

- to measure how well the investments are going in achieving the objectives;
- to gain a greater insight into, and an appreciation of, the risks and complexities associated with investing assets;
- to ensure that the manager understands what the overall goals are and to build a working relationship with the manager;
- to ensure that there is accountability and the manager takes ownership of its responsibilities;
- to improve the investment process for the future.

Evaluating current performance, and what actually happened, completes the "investment cycle" and lays the ground work for the start of the next investment cycle. It enables trustees (and managers alike) to build on the current investment policies. Therefore the review and monitoring process needs to look beyond returns and also evaluate the risks taken, the strategies employed, the decisions made. It must also look at the manager, against the same decision criteria (e.g. people, process, business management etc.) that led to the manager being appointed in the first place.

Crucial questions

When it comes to actual performance investors are typically looking for the answers to six key questions:

- What overall return was achieved?
- Where did the overall return come from (i.e. which sectors, what economic changes, what decisions (trustee, consultant, manager) and was it from income or growth)?
- How did the return compare to what was expected and what was reasonable to expect?
- What risks were taken?
- How are the current investments positioned to generate future performance? There is no point in getting high past returns if the portfolio is now poorly structured to obtain future performance.
- What is happening within the manager and within the market that might impact on future performance and relative performance?

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- who have top quality intellect, commitment, balance individual and teamwork skills.

... Work on focused investment processes

- with a clear competitive edge in philosophy and research

... Are well run businesses

- with a business plan that is consistent with the needs of the current clients.

In obtaining the answers to these questions the analysis must look beyond the actual return and understand what contributed to it in terms of the policies, the manager's decisions (and reasons for them), the movement in the markets, the market outlook and changes within the manager and investment environment. The quality of the consultant's advice should also be considered, again with the benefit of hindsight.

Understanding returns

When it comes to evaluating performance it is important to break down the return by income and growth, by sector and relative to past years' returns. This enables investors to gain an insight into the source of the return and the emerging trend or pattern. Also while the gross return is of interest what is more important is the after-tax and after-costs return. Where tax is an issue, a manager that actively trades and realises gains and losses regularly must consistently add value at the gross level, relative to the market index, to outperform on a net basis a manager with a passive or lower turnover style.

When analysing the actual return it also helps to compare it to what was expected, what the manager was asked to do and what happened in the markets. Also, while managers may not like it they should also be subjected to a peer review i.e. what was the performance relative to other managers and other funds. This is not to say that the other funds are directly comparable or right. In many cases they will not be but this does not matter as the purpose is to gain an insight of how your manager did relative to how it may have gone had different decisions been made or different policies been set. Remember performance monitoring is both an input into the future policy decisions as well as a hire/fire decision of the manager. Whether a manager believes a comparison is fair or not is unimportant, what is important is that the analysis aids the overall decision and responsibility process and is honest and open.

It should also be remembered that when it comes to evaluating performance there is no single statistic that provides a complete picture in terms of return achieved, value added and risks taken. Investors should look at returns and other commonly calculated statistics such as standard deviations of returns, Sharpe ratios, information ratios, tracking errors, value added etc.. Tools such as attribution analysis, i.e. the process of attributing or identifying returns achieved to the decisions made should also be used. This enables the evaluation of the consistent quality of the manager's, and consultant's, decisions. In respect of attribution analysis and the relevant investment statistics, monitoring the trend and level of changes provides greater insight than what is gained by looking at the statistics at a single point in time. The monitoring process should therefore capture information and analyse it overtime.

The complete picture

Looking at the return statistics is only half the picture. To gain a full understanding of the quality of the returns, investors should also monitor aspects such as the level of diversification, the turnover of the portfolio. Also what is happening internally within the manager (people turnover, changing skill levels, the evolution of the decision process, the direction of the business management etc.) and the reasons behind the original decision to select the manager are important.

Putting the actual past performance (either good or bad) to one side, ask yourself would you reselect the manager today based on your original selection criteria? Likewise, has the environment or objectives changed such that the original decision may not necessarily be made again today?

This is not an easy decision. Given the risks involved in investing assets, the extent to which "luck" can dominate performance, the fact that monitoring is undertaken with the benefit of hindsight and given the volume of issues that should be looked at, it is near on impossible without a formal process.

Tips for monitoring performance successfully

Successful monitoring can be harder than making the investment manager selection decision in the first place.

To assist investors through the minefield of smoke and mirrors the following practices may help:

- **Process:** Determine in advance the way that the manager will be evaluated.
- **Meeting venue:** Greater understanding of the manager will often be gained by holding some evaluation meetings in the manager's offices.
- **Agenda:** Investors should set their own agendas and not allow the manager to dominate the meeting or dictate the meeting content. Questions should be prepared in advance and issues or concerns identified for discussion.
- **Past information:** Reports and notes from previous meetings should be kept on hand. This helps prevent the manager using hindsight to explain why they did or did not take a particular action or conveniently forgetting the reasons for past decisions.
- **Reporting:** Reports should be provided prior to meetings and should provide the right balance between words, numbers and graphs. Also there needs to be a balance between written reports and meetings. In many cases meetings are held too frequently.
- **Feedback:** In the same way that a company will manage an employee's performance, the manager should also be given feedback. Be honest if you do not appreciate 30 minutes of general economic verbal commentary and tell him/her not to do it or provide it in writing. If you do not understand technical jargon, say so, and seek non-technical explanations.
- **Balancing time and effort:** It would be very easy to spend too much or too little time in the monitoring process. Therefore at an early stage of the investment process a time-frame should be developed as to what will be monitored and when and how it will be done assuming of course nothing is going wrong. For example asset values may be monitored monthly but actual asset listings may be looked at quarterly, strategy may be monitored monthly but market outlook may be studied quarterly, written reports including commentary may be received quarterly but the manager may be asked to present only annually in person and perhaps six monthly by phone.

- **Costs and benefits:** It is important to get the cost versus benefit balance right between tailored reports and market surveys. Fund specific market surveys will often give valuable data that enables you to identify the real issues quickly and cheaply.

Lastly the purpose of monitoring performance is to complete one investment cycle and begin the next. Monitoring must add value and be beneficial to the development of the ongoing investment policy and direction, it must be informative of what has really happened and why. It should not fall solely into the "that was interesting" category.

Technical terms

Attribution analysis is a process of splitting the total return between the general market movement and the decisions made by the investor and the manager. Common decisions being asset allocation and stock selection. Attribution analysis enables you to see what went right and what went wrong and what was important.

Growth reflects the underlying change in market value or capital value of an investment. Growth may come from market movement (e.g. share prices going up or down) or from retained income i.e. where the income generated by an investment is not paid out.

Income return is the proportion of the total return that comes from income actually received. For example interest paid on cash investments, dividends received from share investments, rent received from property investments etc.

Information ratio is a statistical measure that divides the value added by the tracking error. The resulting statistic measures the level of the additional return achieved relative to the volatility (or risk) experienced. A high information ratio implies the manager adds a high level of value added for the additional risks it has taken on.

Net return is the return after tax and/or after expenses as appropriate.

Risk is a measure of the likelihood that something happens that the investor cannot afford to happen. It may or may not be mathematically quantifiable. Often the standard deviation of returns is taken as a measurement of risk, as it is an indication of the chance the future return is negative.

Real return is the return after deducting the impact of inflation from the return.

Standard deviation is a statistical measure of the dispersion of the returns from one period to the next around the average.

Sharpe ratio is a statistical measure of the additional return the investor achieved relative to the cash or "risk free" return for each unit of risk taken on.

Tracking error is a statistical measure of the dispersion of the value added from one period to another. The tracking error is one measure of the risk that the manager has exposed the investor to.

Value added is a term used to refer to the extra return received (or lost) because of a particular decision and what otherwise would have been achieved.

Understanding debt

January 2012

Debt levels, particularly sovereign debt levels are very topical. They are topical because in many countries debt levels are high and growing, and higher than they have been historically. For some, they are uncomfortably high. Is this a problem?

It is easy to argue that there is a problem. How will the interest be paid? How will the debt be paid back? Will the lenders keep lending? What if interest rates rise? What if there is a sudden shock?

Each of these questions represents a potential risk that may or may not become a real issue. This will depend on what happens in the world and what was and is being done with the money borrowed. Was it used for lifestyle consumption or was it invested to

generate greater income? If borrowed-money is used productively, high, but not extreme, debt levels may be an advantage and not be an issue. Borrowed money used productively has a return. Borrowed money used for consumption generates no return.

Debt occurs because we spend more than we earn and borrow the shortfall. High debt levels occur when we spend more than we earn for a long period of time. As money borrowed incurs interest until it is paid back, rising debt levels increases the expenditure demands on our future revenue. This will cause further fiscal stress, unless the debt has been used productively i.e. generates returns greater than the interest cost.

When money is borrowed to meet a shortfall in income over expenditure, debt levels can quickly rise and, because of the compounding effect if the interest is not paid, get out of control. This has happened at a country level (see previous graph) for many developed countries. Such countries have not made a conscious effort to reduce their expenditure and borrow less. It has been easier to borrow more and increase the risks further for the future.

But high debt levels are a problem for the borrower and the lender. It must be remembered that one person's debt is another person's asset and one person's expenditure is another person's income. Changes to debt levels and expenditure therefore effect both the borrower and the lender and the future supply/demand for goods and services. Often, the lender needs to lend so the borrower can buy the lender's goods. In some cases, a country lends to maintain the demand for its exports and therefore create local employment. However, it can only do this for a limited time.

Borrowing is a promise

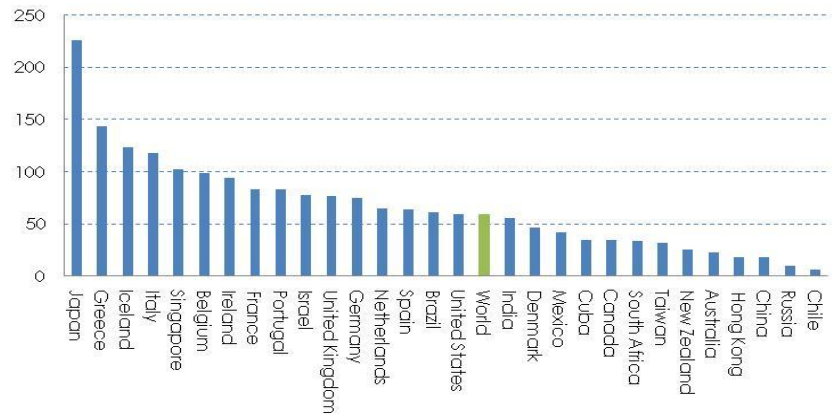
We often forget that when we borrow, we are promising to give up some of our future resources (labour, investment income, property, etc) to increase our current position. If the borrowings increase our current resources, we will be probably in a better position to sacrifice some of them to pay back the debt. If the borrowings increase our lifestyle, then the only solution is to give up our future lifestyle at some point and this is always hard particularly when we see others enjoying life.

Ultimate options

When debt does get out of control, borrowers have three main choices:

- they can cut their expenditure and pay back the debt. The trendy term for the cuts is "austerity".
- they can default and never pay back the debt
- income can rise and rise materially, so that the debt level becomes insignificant relative to income. This often is caused by inflation so the value of the debt is inflated away.

Government debt vs GDP



Source: CIA Year Book 2010

Governments have two other options. They can try to increase their income by raising taxes, or they can simply print money and use the new notes to pay back the current debt or the interest on the debt.

Each option has an immediate impact and also longer term consequences to both the borrower and the lender.

An example

One way to understand the long-term dynamics of debt is to look at a simple example. Assume ABC has income of \$100 and expenditure of \$105. ABC spends \$5 more than it earns and does so for several years. To meet the shortfall it borrows. In the first year, it borrows the \$5.

In the second year, ABC will need to pay interest on the \$5 debt. If we assume that interest rates are 7.5%, then ABC needs to pay \$0.38 interest. Therefore, assuming ABC wants to maintain its expenditure (standard of living) at \$105 in year two, in addition to borrowing a further \$5 to fund its \$105 expenditure, it must also borrow \$0.38 to fund the interest on the debt. Year 3 becomes \$5 plus \$0.78 interest. This can go on for years.

Year	1	2	3	4	5	6	7	8	9	10	20
Expenditure	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Interest bill	<u>0.00</u>	<u>0.38</u>	<u>0.78</u>	<u>1.21</u>	<u>1.68</u>	<u>2.18</u>	<u>2.72</u>	<u>3.30</u>	<u>3.92</u>	<u>4.59</u>	<u>14.76</u>
Total expenditure	105.00	105.38	105.78	106.21	106.68	107.18	107.72	108.30	108.92	109.59	119.76
Income	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>
Short-fall	5.00	5.38	5.78	6.21	6.68	7.18	7.72	8.30	8.92	9.59	19.76
Total debt	5.00	10.38	16.15	22.36	29.04	36.22	43.94	52.23	61.15	70.74	216.52
Debt to income	5.0%	10.4%	16.2%	22.4%	29.0%	36.2%	43.9%	52.2%	61.1%	70.7%	216.5%

At what point of time will the debt become a problem for ABC?

After 10 years, ABC's debt is \$70.74 (i.e. 71% of its income) and the interest bill for year 11 will be \$5.31. 10 years is a relatively short period of time.

After 20 years, ABC's debt is \$216.52 (i.e. 217% of its income) and the interest bill for year 21 is \$16.24. If the interest bill is \$16.24 then the total new borrowings in year 21 are \$21.24 if ABC is still looking to maintain its \$105 lifestyle.

When do lenders say no?

As long as other people are willing to lend ABC money, ABC can continue in this way. However, each year ABC's debt goes up and it needs to borrow more and more, just to fund the increasing interest bill. When do the investors say "We are not going to lend any more money to ABC?" Also, when do they say "We want our current money back?"

When does ABC say no?

When does ABC stop borrowing and look to pay back the debt? To do this it will need to cut back its expenditure in other areas. Does it do this before the lenders force it to, because they will not lend anymore money, or does it do it afterwards? There are always more choices to act before you are forced to. Of course, ABC may be hoping that this never happens, or inflation takes off and its income rises, so the debt level becomes less as a multiple of its income and potentially more manageable.

If we assume that rising debt is allowed to happen unquestioned for 10 years and at that point ABC decides not to borrow anymore money, ABC needs to cut its expenditure from \$105 to \$94.69 – a 10% reduction. This is because it needs to meet the \$5.31 interest bill for the 11th year on the current debt and allow for the ongoing \$5 shortfall. Also, cutting ABC's expenditure to \$94.69 means the debt does not continue to grow. It makes no allowance for reducing the debt. This would require further cuts in expenditure.

If ABC does not act until after 20 years, it needs to cut its expenditure by \$21.24 to \$83.76 – a 20% reduction – just to stop the growth in debt. How many governments can cut their expenditure by 20% and stay elected? Also, cuts at this level often required cuts to core welfare payments.

But life is not simple

Of course, nothing is as simple as the example. In reality, inflation will be present and the borrowings may have been invested wisely. ABC probably expects its income to rise each year and therefore the debt as a percentage of income to reduce and for the interest bill to reduce in real terms relative to income. But, if inflation rises, so may interest rates and therefore the accumulated debt and interest bill may rise as well. Also, in such a scenario, expenditure will go up by inflation so in real terms, the overall numbers not be that different.

The real issue is the reason for the debt. The example assumes that the \$5 borrowed is spent on consumer goods for maintaining lifestyle. The better alternative is to invest and build up productive assets. This increases the future income of ABC. If debt is used productively, debt is not a bad thing and more debt may give the borrower an economic advantage. After all, many may individuals do this when they borrow to buy their home.

Bonds – what's important?

May 2012

For many investors, a portion of their capital will be invested in bonds as part of their investment strategy. The question is which bonds? This should depend on why the bonds are to be bought and the nature of the return required.

Purpose

Normally, the main purpose of allocating capital to bonds is to generate income and provide certainty around the income. The income is to be spent (i.e. an immediate income need) or to be reinvested (inflation protection of capital). Bonds should be bought to achieve these needs. When it comes to buying a bond therefore, what is important is that you:

- get your **capital back** when expected,
- **receive the income** as expected, and
- have **no sleepless nights**.

The best bonds

For most investors therefore, unless they wish to speculate, trade or take on more risk than is normally implied by the need for “income”, they should follow the basic principles of:

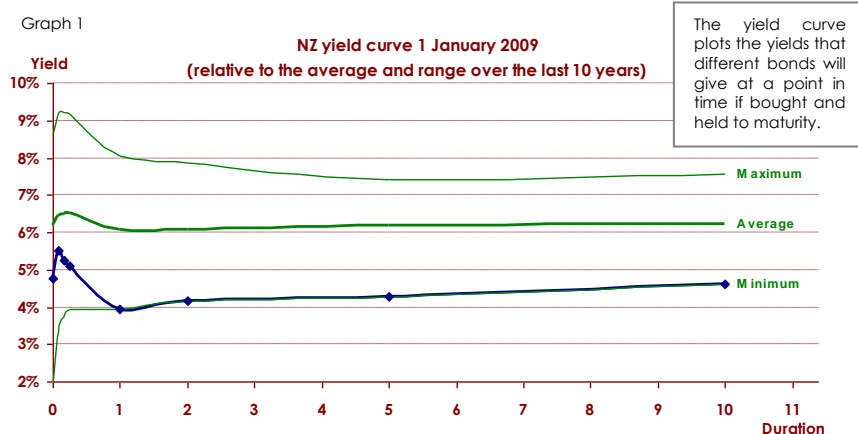
1. Have a **maturity date**. Bonds should be bought to mature at times when the capital is required to be received back. It is better to invest in bonds where you will automatically get your money back i.e. have a maturity date. It is therefore better to minimise any exposure to perpetual bonds i.e. bonds that do not have a fixed maturity date and to bonds that have a variable maturity date.
2. Don't lower **security** standards. It is better to buy bonds at the investment risk level that you are comfortable with and not lower the security to increase the income. If you want a “BBB” investment grade portfolio it is better to buy BBB grade bonds and not a mix of A, BBB and BB to give a BBB grade average. A-grade bonds give you a lower return and BB- grade bonds give you higher risk. It is the security of each bond that is important and not the average of all bonds. It should also be recognised that not all bonds have a security rating. The lack of rating should not exclude them as long, as the issuer has the appropriate financial strength. Also, it is the security until maturity that is important, as opposed to the security at the time of purchase.
3. Keep things **simple**. Avoid anything structured or complex. Complexity normally hides higher risks and higher fees. Bonds that have reset interest rates (i.e. they change each year) normally also result in lower returns, on average, even though they are attractive at the start. Bonds backed by assets (including other bonds) means you have to be able to also assess the security of the other assets and the rules for how they might be changed. This will have higher costs. You cannot get a fair return with higher risks and higher fees or costs;
4. Focus on **marketable** securities with a high level of publically available information. Unlisted securities and bonds of private companies can be alright, but typically represent a significantly higher risk due to less information being available, and require a higher level of due diligence than an average investor can normally do.

The purpose of this article is to look at the practices commonly employed in the management of NZ bond portfolios. It seeks to help with understanding bonds as an investment, raise a number of issues and suggest an alternative approach that may be of relevance to some investors. However, like all investment approaches, no method guarantees the highest return in any individual year.

Over the 25 years to 31 December 2008 annual returns have, because of significant interest rate movements, varied between -3.5% and 30.5% before tax. The average has been about 10.0% p.a. before-tax. This is significantly higher than the returns over recent years and higher than the outlook. Recent returns have averaged about 7% p.a. and our long-term expectation is for an average of 6.5% p.a.. More details are set out on the back page.

The bond market

The current returns available from bonds of different durations, are indicated by the “yield curve”. The current yield curve for government bonds relative to the average over the last 10 years is shown in graph 1.



At the same time, non-government bonds (e.g. local authorities, companies etc.) yielded a margin over the equivalent government bond depending on their duration and the borrower’s credit rating. This is because they don’t typically have a “taxpayer guarantee” and there is the greater risk of default; reduced liquidity etc. The approximate “average” margins for 10 year non-government bonds are:

In terms of the bond market, a number of generalisations can therefore be made:

Table 1

10 year bond yields	Yield	Margin
Inflation	% p.a. 2.5	% p.a. -
Government	6.5	-
Non-government		
AA rated	7.1	0.6
A rated	7.6	1.1
BBB rated	8.1	1.6

- longer dated bonds (e.g. 10 year bonds) tend to return more than shorter dated bonds (e.g. 3 year bonds), but not always.
- non-government bonds (e.g. corporate debentures) tend to provide higher returns than government guaranteed bonds, but not always.

Also relevant, in understanding the bond market, is the effect of interest rate movements on returns. When interest rates

Summary

Historically active NZ bond managers have achieved returns about 0.6% p.a., before tax and fees, above that of the NZ government stock index. While on the surface this is a good result, a fair part of the extra return came from the managers holding corporate bonds and having a bias to a “long” duration portfolio. Adjusting for these “passive” investment factors and deducting fees, little, if any, real value was added by investment expertise.

There are several strategies that can be employed to enhance long-term performance from a bond portfolio and outperform a pure government stock index. Specifically:

- increasing the exposure to investment grade non-government bonds.
- increasing the portfolio’s duration beyond the average of the government stock index.
- reducing trading costs and “active” risk, by buying bonds with the intention of holding them long-term.
- achieving lower management fees.

One option therefore is for investors to buy 5 or 10 year non-government bonds and hold them until opportunities to sell them arise. Such an approach should see investors receive higher annual income returns and higher average long-term total returns reflecting the characteristics of non-government bonds. The income returns will also be more stable but the total return more volatile. Accordingly such an approach will not suit all investors.

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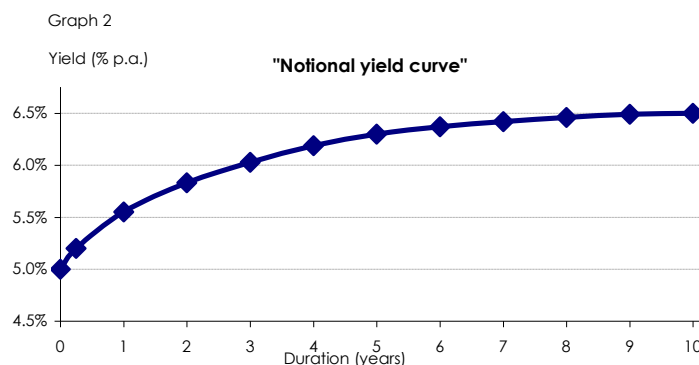
fall (rise) the capital value of a bond rises (falls). The total return is therefore higher (lower) than the interest payment alone. The size of the fall (rise) reflects the size of the interest rate movement and the duration of the bond. Over the life of the bond, unless the bond defaults, the sum of the rises equals the sum of the falls.

Understanding the potential return

The total return from a bond comes from the interest received (coupon) and the change in the market value due to interest rate changes. Over the long-term the return should average more than cash, but will vary above and below cash returns over the short-term.

As at 1 January 2009, 10 year government bonds yielded approximately 4.6% p.a. (see graph 1). If an investor therefore buys and holds a 10 year bond for the 10 years, the average return earned will be 4.6% p.a.. The actual return on a year by year basis will vary around the average however, depending primarily on interest rate movements. Even if interest rates don't move, the year by year return will vary. The variation will reflect the reducing duration of the bond and the lower yields for short duration bonds. However, the average will still be 4.6% p.a..

To understand the pattern of returns without interest rate movements, assume that yields of bonds at different durations are:



Based on the notional yield curve, the average yield is about 6.2% p.a.. This would be the yield of the market index. Relative to the index return, an investor can buy a 10 year bond yielding 0.3% p.a. higher at 6.5% p.a.. If the investor bought the 10 year bond, and interest rates don't change, the investor will automatically earn 0.3% p.a. above the index. Also the investor can sell it 1 year later (i.e. as a 9 year bond) at a yield of 6.49% (say). The overall return for the year is therefore 6.57% made up of the 6.5% initial yield plus, a capital gain of 0.07%. The gain reflects the capitalised value of the difference between the yields of 9 and 10 year bonds.

On the same basis, the return over each year, of the 10 year bond's life as yields fall, would be:

Table 2

Future year	1	2	3	4	5	6	7	8	9	10
Annual return in year (%)	6.6%	6.7%	6.7%	6.7%	6.7%	6.7%	6.6%	6.4%	6.1%	5.6%
Cumulative average return (% p.a.)	6.6%	6.6%	6.6%	6.6%	6.6%	6.7%	6.6%	6.6%	6.6%	6.5%

As can be seen the year-by-year returns initially rise and then fall, but average 6.5% p.a..

There is therefore a small (0.2% p.a.) advantage in buying longer bonds (e.g. 10 years) and selling them when they have a few years to go (e.g. 3 or 4 years) or earlier if an opportunity arises.

While the 0.2% p.a. return differential over 10 year bond yields is small, it actually represents a margin of approximately 0.5% p.a. above the return of the market index. This is not bad value added given that no skill is required, no management fees are incurred and the only risk arises if you are forced to sell short-term.

Adding value to a bond portfolio

Value can be added, relative to the standard market index, from a number of strategic policies and tactical decisions.

Strategic policies

- **Hold longer bonds:** With the average market duration (i.e. the average duration of all bonds) about 4 years, one way to add value relative to the market index is to have a longer duration than average i.e. buy more 10 year bonds and fewer 2 year bonds etc. This works when there is a positive yield curve and yields are equal or above their normal level.
- **Hold non-government:** With non-government bonds paying a higher interest rate than government bonds, by strategically holding a defined level of non-government bonds the average return can be enhanced. Greater risks are involved however, as should the bond issuer default, losses of income and/or capital may arise.

Tactical policies

In addition to strategically buying longer dated bonds and non-government bonds, in order to do better than the market return, there are several tactical strategies that can be considered:

- **forecasting interest rate movements:** Just as opportunities exist in the sharemarket for achieving gains by timing entry into and exit out of the market, a similar such opportunity also exists within the bond market. Forecasting changes in interest rate movements, and making those calls correctly, will generate significant value add.

An investor who forecasts that interest rates will rise could temporarily sell out of the bond thereby avoiding the losses associated with interest rate rises. The investor can then buy back the bond before interest rates fall back. Assuming

interest rate movements are forecast correctly, higher returns will be made. Of course if you make the wrong call, you will reduce value. Also, if someone earns a higher return by correctly forecasting the interest rate movement, someone else (the buyer) will earn less, as the average will still be the same. Interest rate movement forecasts will therefore require skilled judgement (or good luck).

- **exploiting temporary anomalies:** From time to time similar bonds, or a combination of bonds that should return similar yields, are mispriced relative to each other. An active investor can take advantage of such anomalies by buying and selling and increasing the return otherwise earned.
- **non-government:** From time to time the gap between government and non-government yields is higher than normal. When this happens more non-government bonds can therefore be bought tactically until they return to normal.

Managers in New Zealand use one or more of the above methods to add value. In some cases their style has a particular bias (e.g. long duration or a specific allocation to non-government bonds) that delivers “value” over time without any real effort. In other cases, the style is unbiased and value is added by short-term active decisions.

Current practices

In New Zealand the common method employed by investors to manage their New Zealand bond portfolio is to appoint a manager to make active decisions on which bonds to buy and sell. The manager will typically buy and sell bonds and might turn the portfolio over 2 or 3 times throughout the year. The aim is to do better than the overall market average and managers take advantage of one or more of the “adding value” methods described earlier. The performance is typically measured relative to the NZSX government stock index.

Manager returns

In New Zealand the investment outcomes of the major managers have typically resulted in returns above that of the index over long periods of time.

Historical analysis shows that most managers have added “value” relative to the index. For example, over the last 5 years, the average return of a manager was 7.6% p.a. before-tax and fees, or 0.4% p.a. above that of the index. Also relevant is the volatility, with no manager out performing the index each year.

These patterns of the margins over and above the index are probably sustainable, on average, in the future. Returns, as in the past, will vary by manager and the top manager in the future will not necessarily be the top manager in the past.

Table 3 should, however, be interpreted carefully as it focuses on return and not the source of return or risk and includes a survivor bias. Major managers around in New Zealand in different forms ten years ago, but not today, include ANZ, Barclays, Cigna,

Table 3

Manager	Manager value added relative to government bond index over the last	
	3 years	5 years
	% p.a.	% p.a.
Alliance Bernstein	0.6	0.3
AMP	1.8	1.0
AXA	0.2	-
ASB	0.1	-
ING	-1.4	-0.4
Tower	1.2	0.7
Tyndall	0.0	0.2
Average value	0.7	0.4
Note: above average past performance does not guarantee above average future performance. The performance is before fees.		

Source: 31 December 2008 iPerformance.MCA

Citibank, Norwich, NZI, Prudential, Southpac and WestpacTrust. Therefore, returns are not always attributed to the current manager.

Even allowing for the volatility and manager fees, wholesale investors have been rewarded¹. On the surface this would appear a satisfactory outcome.

While the recent outcomes appear satisfactory, several practices question the true quality of the outcome:

- mandates tend not to include a specific allocation to non-government stock and the index does not include non-government stock. Yet managers normally hold a level of non-government bonds and therefore get credit for the higher return. The real value added therefore is lower than what appears to be the case because the true benchmark should be a combination of government and non-government. In practice, investors should make a conscious decision on the non-government exposure having regard to their liabilities, and performance should be measured against this. It should not be left to the “bias” of the manager.
- the neutral duration of the portfolio is defined by reference to the average duration, for the time being, of the different bond securities on issue. This has two problems. First, managers that have a natural bias to a long duration will by default appear to add value over time because of the higher yields of longer duration bonds.

Secondly, and more importantly, is the relevance of the average market duration. The duration of the index will be unrelated to the liabilities and the securities in the index will partly reflect the preferred duration of the borrowers not the investors. Logic, and prudence, suggests that the duration of a portfolio should not be set by accident and should be set with regard to the liabilities, and not based on the average of what happens to be on offer at any point in time.

- investors investing in bonds normally want an income return and stability in the income return short-term. Market practice however, focuses on total return.

Given the market, and the way that managers operate (i.e. their practices as opposed to their specific skills), we think that the actual returns overstate the quality of the return and hide the risks taken.

The questions are “should we be happy with the results?” and “is this the best way for an investor to manage their NZ bond assets?”

If investors are happy with the inherent risks of the current practice, and are motivated by avoiding poor short-term relative returns, the current practice is probably appropriate. Also, if the NZ bond exposure is part of an active “balanced” mandate including active tactical asset allocation, the current practice is also probably appropriate.

If there is a NZ bond focus, a medium term return focus, or an income return focus, and the investor can tolerate some short-term asset price volatility, there may be a better way.

¹ Retail investors, because of higher fees will have under-performed the index in most cases.

An alternative approach

Logic says that deliberately buying longer dated bonds, having an investment grade credit focus and holding them to maturity will give a higher, but possibly more volatile, return. Specifically:

- A well diversified² portfolio of investment grade bonds, and its equivalent, will, if held to maturity, deliver above benchmark returns on average. You don't need to pay a manager to do this or you could set this as the manager's mandate and negotiate lower fees. This would capture the full premium between government stock and corporate bonds.
- Investors could buy predominantly longer bonds (e.g. 10 year bonds). This might add 0.3% p.a. on average. Selling them when they have just 3 or 4 years to go before maturity when interest rates have not moved or have fallen might add a further 0.2% p.a. on average.
- By holding bonds to maturity you ensure that there are no realised losses from interest rate risks.

Implementing the above strategies would provide investors with a low maintenance approach but higher average returns than the returns of the current market practice. It will also provide a stable income return and save on costs. Whilst the strategy increases short-term volatility in asset values, the portfolio will be less liquid than a portfolio of government bonds. These risks can be managed by cash holdings.

Many of the brokers in NZ have the resources to assist investors create and maintain such a bond portfolio. However, if an investor continues to use a manager, but adopts the above concepts, the long-term outcomes should still be better.

Why don't managers adopt the above approach? There are probably several reasons:

- The managers are currently employed as "experts" to be "active".
- The alternative approach will probably result in higher short-term volatility. This means that in some individual years, it will give a lower total return. This gives the manager a business risk (low performance relative to their peers).
- It would be hard to justify the current manager fee levels for what would become a low turnover buy and hold approach.
- In New Zealand it can be argued that the margins of non-government over government are not high enough and therefore don't adequately compensate investors for the default risk. Sooner or later a bond will default. The managers would not wish to take on such risk on their own accord.

However, for an average investor looking for an above average stable income return, it is an approach that should result in higher average returns and the short-term capital volatility may not be an issue. It is an alternative worth thinking about.

² In the NZ market, it could be argued that sufficient diversification is not possible, though the same doesn't apply to overseas markets.

Glossary

In simple terms a bond is a loan. When you purchase a bond, you are lending money (known as the "capital", "face value" or "principal") to another party (known as the "issuer"). Common issuers include governments, local authorities, companies etc. In return for the loan, the issuer promises to pay you a particular rate of interest (the "coupon") during the life of the bond (known as the "term") and to repay the principal at the end (i.e. when it "matures" on the "maturity date"). The interest payments are normally every 3 or 6 months.

As a loan, the security of a bond depends on the ability of the issuer to honour its promises to pay interest and to repay the loan. Security in part, comes from what the issuer decides to use the money for. Generally the better the security, the lower the coupon the issuer has to pay to be able to borrow money.

Bonds are also known as "fixed income" or "debt" securities.

Terms also relevant are:

Duration

The duration of a bond is the weighted average period of the cash flows i.e. of each coupon payment and of the return of capital on the maturity date. Generally, but not always, the longer the duration, the higher the return; i.e. 10 year bonds yield more than 3 year bonds.

Yield

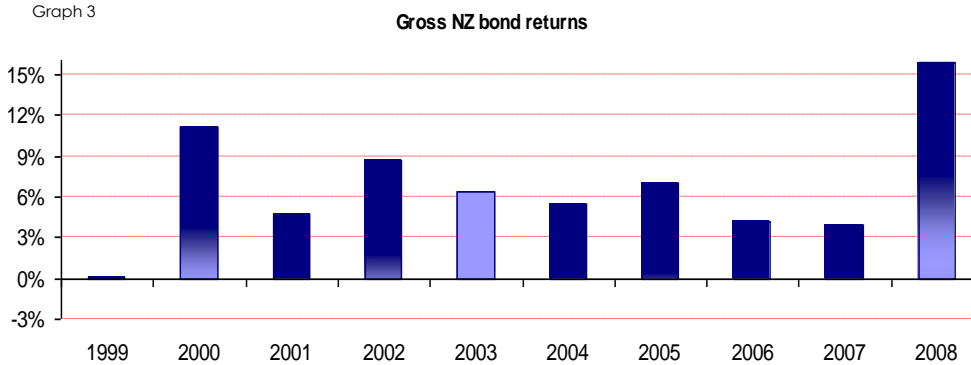
The "yield" is the return that an investor receives if the bond is held to maturity. It includes the coupon and any capital movement.

Yield curve

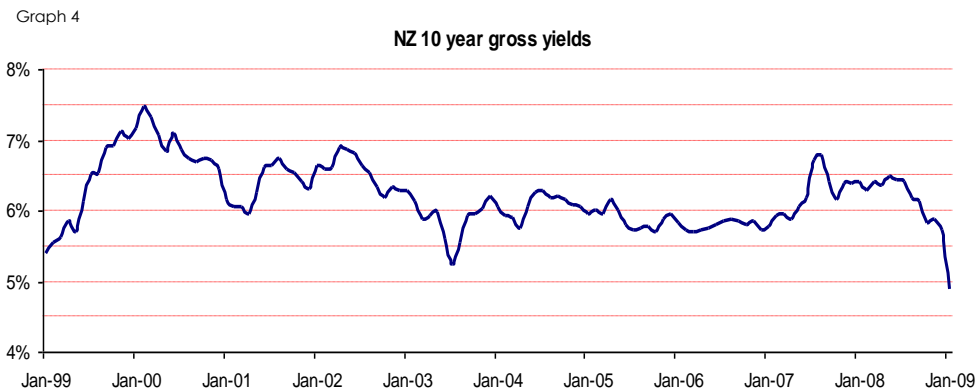
The "yield curve" is the graph of the yields of the bonds of different durations, that are available in the market.

Historical returns

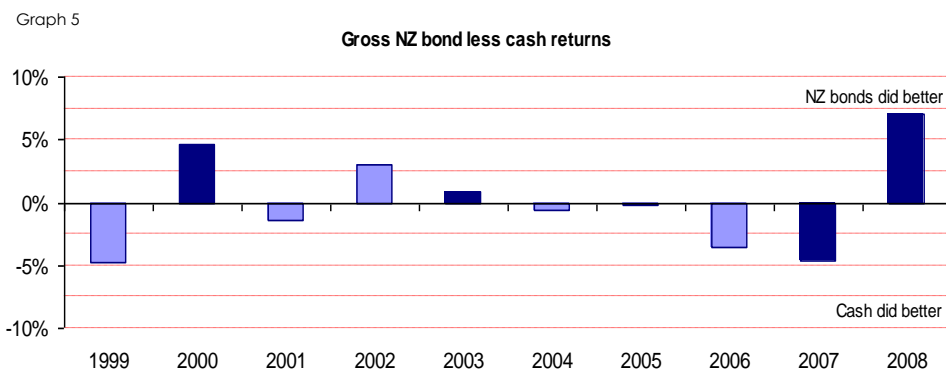
The annual returns (coupons and capital movement) from NZ Government bonds over recent years have been:



Over a period when the average return was 8.0% p.a., the graph highlights the yearly variation of returns given the interest rate movements. The yields (i.e. changes to interest rates) of 10 year NZ government bonds over recent years have been:



Over the same 10 year period, NZ bonds outperformed cash by 0.75% p.a., on average, but varied around the cash returns by -9% to 7%. The difference between cash returns (90 day bank bills) and Government bond returns have been:



Diversification in a share portfolio

October 2009

If a sharemarket were made up of five shares and an investor had \$150,000 to invest, and no other information, the logical investment decision is to put \$30,000 into each. By investing in all five shares, and equally weighting them, the investor minimises their dependence on any individual share.

Alternatively, an investor could be less diversified and select, say, three shares and put \$50,000 in each. This will increase the range of the potential returns, around the average that will be experienced, because of less diversification. It also:

- increases the possibility that the investor receives a low (or negative) return and the need to manage the risk, and
- introduces the need to exercise judgement to select the three shares.

Therefore to select fewer than the full five, creates a need for research to eliminate two shares and to manage the risk of a lower than market return, should the three selected prove collectively to be wrong.

At five shares, it may not be worth the time and cost to do the research and manage the risk. But what if the sharemarket contained 50 shares? Would the same investor want to put \$3,000 in each (maximum diversification) or would they prefer to select, say, 20 shares and put \$7,500 in each, or 15 and put \$10,000 in each?

The principles of diversification, in the absence of additional information, suggest the 50 share - \$3,000 in each - route. But, investors have to be practical. The costs of, keeping track of the shares, their values and in collecting dividends, on 50 shares, may negate the benefits of the increased diversification.

This highlights the compromise between diversification and practical management. We want to spread the assets as wide as possible, to minimise the impact of unknown and adverse information, but keep it simple. Often, the additional diversification benefit, of going from 'n' to 'n+1' shares, is not material yet the administration cost can be high. In the context of the NZ market, this typically occurs once 'n' is past 15 to 20 shares.

From a universe of 50 shares, an investor is probably best advised to select 15 to 20. This raises the issue of how to select the 15 to 20 shares or alternatively, how to eliminate 30 to 35?

Selection

When an investor decides which shares to buy, they first need to think about the types of shares to buy and which of these, might be better. What are the characteristics of share A, that will make it a better option for the investor than share B. This is a combination of the costs, skills required, the expected relative returns and the nature of the return, the relative risks, and the level of confidence the investor has in the analysis.

Investors have to decide on which are "A" and which are "B" shares. The A's could be randomly selected, out of the available shares, or they could be selected after undertaking research and due diligence and applying intellectual capital, or selected based on some other method/rule(s), e.g. the largest 15 to 20.

When it comes to investing in the NZ share market, the optimal solution for many investors is to buy 15 to 20 shares and equally weight them. The number could be:

- reduced if the total dollar value, available to be invested, were below \$45,000 (i.e. \$3,000 in each), or
- increased if the exposure were above 20% of the investor's total assets (i.e. resulting in more than 1% of the total assets being in each share),

These principles could be modified if the investor, in each case, were prepared to undertake appropriate research to manage the resulting risk.

The 15 to 20 shares should be selected to provide appropriate diversification between different industries, profit drivers and economic scenarios. They also should be of a nature that allows them to be held for at least 5 years, unless they are kept under close scrutiny and the investor has the skill and processes to identify when to sell them earlier.

Most investors would be unhappy with the concept of a random selection. Therefore what investigations and due diligence is needed? This depends in part, on the potential benefits versus the costs and on what the investor wants to achieve.

The considerations that an investor should think about, include:

Costs

The investor needs to find a balance between the benefits of improving the quality of the return by selecting shares, with the costs and time involved. The only return that matters is the net-of-costs return.

They must also be honest about the skills and resources that they have.

Relative returns

Before an investor decides to favour one share (share A) over another (share B), they must satisfy themselves that the profit outlook of A is better than that of B. Also, that the price for the increased profit outlook is reasonable. The likely return (dividends and growth) of A, must be expected to be better than B, relative to the investor's needs for income and growth. "Better" in this case might be higher, or it might be with more certainty or with more consistency.

This then raises the question, should the focus be on buying shares of companies that make current profits (particularly cash profits), or companies that rely on investing capital to grow the business with a expectation of greater future profits?

And, how reliable are the likely profits? It is hard to assess the reliability of individual company's profitability, without significant work. To help, an investor may seek the views of several analysts to understand the common views and why there might be differences of opinion.

Profit drivers

It helps to know what events drive the profits of a company e.g. exchange rate, economic growth, interest rates etc. It is often a good idea not to become too reliant on a single factor.

Reduced industry risk

It is normally not hard to find out what industries the different companies operate in. It is therefore relatively easy to reduce the reliance on a particular industry. Investors might want to avoid some industry sectors, but, as a rule, investors should make sure they are exposed to several industries.

Cross-share holdings

It is best to know where one company owns part of another, as owning both, increases the dependence on the subsidiary. The principles of diversification should lead investors to look to reduce their dependence on their management of any particular company.

Liquidity

It often pays to limit the exposure to non-liquid companies i.e. companies where it is hard to buy and sell, as not many shares trade each day. This does not mean that illiquid shares should be avoided, but just in case some cash is needed, most should be easily sellable.

The overall level of diversification should also be considered.

How much of each?

When the shares are finally identified, it also pays to think about the risks, particularly in determining how much to buy of each. How much of X do I buy over Y?

Having selected the “A shares” to buy, an investor also has to decide how much to buy of each. When do they buy more of X than Y? Do they do it, simply because X is a bigger company than Y? What about if the expected, but not guaranteed, profit of X is higher than Y?

Putting aside any thoughts that X has better future return prospects, it may be worth favouring X over Y, if:

- the liquidity of X (ability to sell the share) was better than Y and the investor needs greater liquidity, or
- the size of Y was small relative to the total investments i.e. the investor would own too much of company Y, or
- by buying Y the investor doubles up on Y, because Y is partially owned by X that has been bought, or
- Y is similar to Z which has already bought.
- X is a more reputable or well known company.

So, unless an investor can satisfy themselves that X is better than Y, or provides a measurable advantage, it may pay to buy them equally.

When it comes to investing in New Zealand shares, a common question is “how do I?” The question stems from having not done it before, or from the fear of making a bad decision, or from not being confident to talk to a broker or advisor. In some cases it stems from a previous “bad” experience.

There is no single answer to the question and many approaches have worked and will continue to work. What follows is one option that is often appropriate, and should provide good returns long-term. However, because we are dealing with share investments, it must be remembered that no method can always prevent negative returns over the short-term and someone somewhere will have done better.

As a rule for New Zealand investors, it is better to buy shares direct and not via a managed fund or product. When you use a product, the good passive funds offer a genuine long-term advantage.

It is also better to deal direct with a genuine share broker, and not via a financial planner with a “wrap” account or monitoring service.

Also, when it comes to buying shares, unless you do all the ground work yourself, and have a genuine interest in researching companies, it is often better not to buy and sell via the internet and to use a “real person”. It is important though, that the real person provides advice and demonstrates an understanding of the market and can relate to your preferences. However, whether you use a broker or go via the internet, what is important is that you feel secure and confident in the process.

As a rule it is important to be able to sleep at night and 2007 understand what you have bought and why.

One process

When investing it is important to have a clear objective. In this article we assume that the aim is to invest in a range of shares designed to provide good long-term returns that are not based on chasing what is currently “hot”. For this objective the appropriate process involves identifying the shares, with the characteristics of being able to produce good long-term returns, and investing in each. Having bought the initial shares, the portfolio needs to be reviewed from time to time.

As a rule the investor should look to identify 5 to 10 shares that are expected to perform well over the medium to long-term. A portfolio of 5 to 10 shares should provide diversification by industry and company while keeping the portfolio manageable. If the share portfolio is significant relative to an investors total assets, a higher number of stocks may be appropriate but probably not more than 15.

The portfolio should generally be constructed by equally weighting the stocks (i.e. buying the same amount of each). By investing equally in each you are not trying to pick which will be the “best winners”, and you maximise the diversification.

The selected stocks should be held with the intent of holding them for the long-term, though they should be kept under review and formally evaluated every 12 to 18 months.

Initial portfolio

A suggested selection process for the initial portfolio, is:

1. The initial share selection process should involve identifying two share brokers with whom you can relate to, and you feel comfortable with. This can only be achieved by talking to the brokers and ensuring a “comfort” level.
2. Each Broker should be asked *“I have \$x to invest, I wish to invest it in NZ shares, and hold such shares for at least the next 5 years. I am generally risk adverse. What 5 to 7 shares do you recommend and why?”* In asking this question what is important is that the broker focuses on the long-term and not the next 3 months, and recommends a balance between different industries and types of shares.
3. Having got the views of each of the brokers, it is possible to compare the shares and the reasons given. You should also question each broker, using the views of the other, to understand the characteristics of the shares, particularly where there are differences in views. You do not need to rush your decision - good long-term shares don’t suddenly become bad long-term shares overnight.

Ultimately from the shares suggested by the brokers (perhaps 7 to 8 in total), 5 to 7 shares, say, need to be selected. Besides the commonality of views of the brokers, and the confidence you have in those, each share should pass the “common sense” test.

As an investor you should be able to understand where the future value will come from, and why that particular share should perform well. Ultimately the value of a share must reflect future profits, you need to be able to understand therefore, where those profits will come from. Such shares should not rely on “speculation”. Often the shares will involve companies that have predominantly a monopoly position or are in industries that have sustainable growth characteristics. Your final list of shares should reflect different industries (e.g. finance, construction, transport etc.) and different types of companies.

4. To remunerate the brokers that assisted you, the actual share purchases should be done by splitting the \$x between the brokers.

There is no requirement for two brokers. You can use one if you prefer. What is important is that you have confidence, and the broker understands that you are a long-term investor, not wanting to speculate on short-term winners or rumours or hunches. You want to maximise your long-term income (i.e. dividends) and protect your capital overtime.

Ongoing review

If the initial shares are good shares, there should be little need to change the portfolio often. Patience is required to allow the reasons why the shares were originally selected to come through in returns. However, you should still monitor the portfolio regularly. A suggested review process is:

1. Other than general common sense, a review of the portfolio should not normally be undertaken for 12 -18 months. At the 12-18 month point, to go back to the same brokers (or alternative brokers if preferred), and ask the question *“if I had \$x to invest, and I wished to buy 10 NZ shares, and not sell them for the next 5 years, what shares would you recommend?”* What is important is that the number of shares you ask about, is 2 to 3 greater than what you hold and that you get the broker to focus on the longer term, and not the next 3 months.
2. Again after understanding any differences, and the reasons for the different views between the two brokers, you can review your portfolio. As a rule, if your current holdings are not included in the new list of 10, consideration should be given to selling that share and the brokers should be asked specifically “why it is now not recommended?” Any sale should result in a new purchase unless you want to reduce your exposure to NZ shares.
3. If your current shares are on the list of 10, then as a rule you should continue to hold them as they are still considered one of the “better” shares. You can, if you wish to, sell one or two for others on the list, but turnover should be kept low.
4. The review process should be repeated every 1-2 years.

Small amounts

In suggesting the above process it is assumed that \$x is large, perhaps above \$50,000 or at least \$25,000. What happens if \$x is less, but there is intention to save and build it over time?

In such cases, there is no reason why the suggested process is not equally applicable, though it will need modification. At one extreme, assume that \$x is nil, but you intend to save \$y a month. In this case it is a good idea to save the \$y in a bank account until it is \$z (\$2,000 say). At this point you can go and buy the first share on your list. When you have saved a further \$z, buy the second and so forth. It is still important to adopt a long-term approach. With less money you probably should also favour a single broker.

Conclusions

The above process is designed to produce a portfolio with relatively few risks other than market risks in a relatively straightforward way. It's also designed to reduce turnover and ensure that the focus of the portfolio is to generate long-term returns to you, and not fees to the broker. It may not produce the best returns every year and it is important that you don't fall into the behavioural trap of chasing what was “hot”.

It is however acceptable for you to manage part of your portfolio in share investments that perhaps are a little more “speculative”, but which have an “active interest” factor. However, in this case, you must understand that the returns from such investments may be more volatile and require a greater level of monitoring.

The advantage of equal weighting

May 2010

There are two investments, A and B. Which do you buy? Unless you have evidence that one is likely to be better than the other, the principle of diversification suggests that you buy each and buy equal amounts of each. You would not buy more of A simply because it was bigger unless B was so small that by buying an equal amount of B, you would end up holding too much of the total of B. You might buy more of one, but only in circumstances where you were confident that it was likely to do better than the other.

The “better” return might be due to a higher expected return or due to less uncertainty in the return. A better return might also be a return that has a more suitable income and growth profile for your needs.

If the principle of diversification was applied to a share portfolio, the starting point would be to identify the potential shares, that meet your minimum investment criteria and to equally weight all, or a selection of them. Any decision away from the principle of “equal weight”, would need to be justified on the basis of a better return expectation relative to the liabilities (i.e. return requirements). Mathematically, an equally weighted portfolio of investments with the same expected return that are not perfectly correlated, will be better long-term.

But an equally weighted approach will not always result (each year) in a higher return, compared to the general market. For example, being equally weighted means that you own less of the larger companies and more of the smaller companies, than the market as a whole. If the very large companies all do well, the market will have a higher return. Likewise, if all small companies do very poorly, the equally weighted return will be lower than the market. However, the environment is normally such that all small companies doing poorly or all big companies doing fantastically well, does not happen often.

The principle of diversification suggests share portfolios should be equally weighted, unless there is clear evidence that some shares will have better future prospects.

Recent experience

MSCI Barra calculates the main overseas shares market index (the MSCI index) on the basis of the size of the companies available for investment (market capitalisation). Since 1998, it has separately calculated an index by equally weighting the different companies in the main index. While 12 years is a short timeframe, from an investment perspective, it is useful to compare the two.

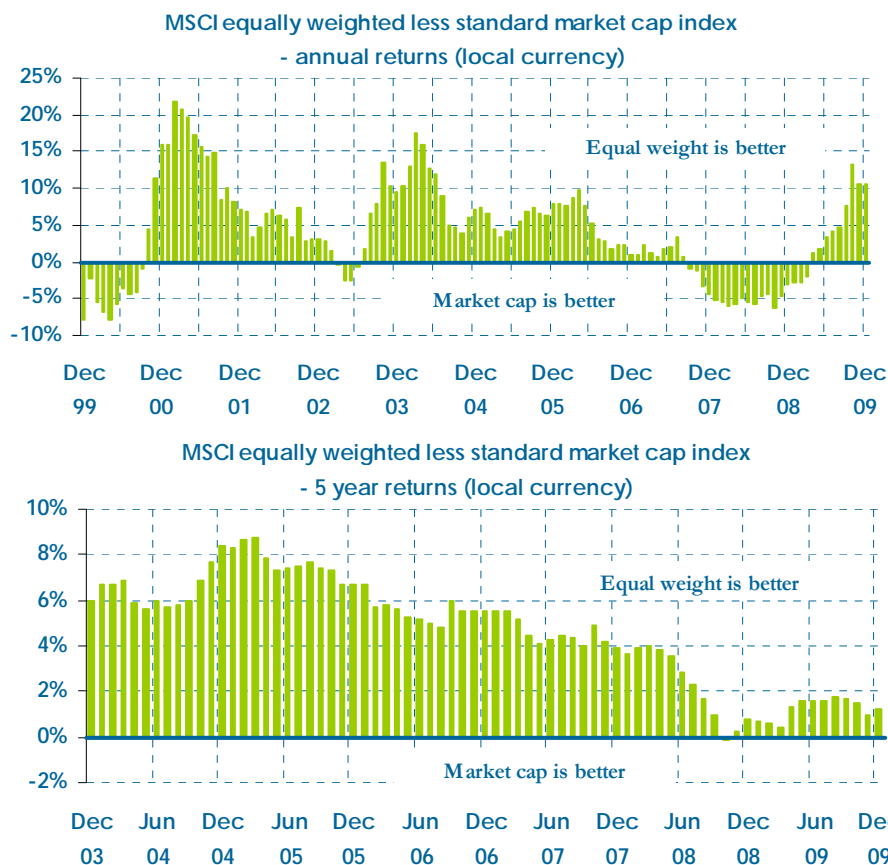
Summary statistics for the last ten years are:

	Local currency		Common currency (US dollars)	
	Market capitalisation	Equal weight	Market capitalisation	Equal weight
Return 1.01.2000 to 1.01.2010	-0.8% p.a.	4.0% p.a.	0.2% p.a.	5.9% p.a.
Volatility (p.a.)	15.4%	16.8%	16.5%	18.3%
Highest annual return	37.1%	54.2%	45.1%	69.4%
Lowest annual return	-42.0%	-44.8%	-46.8%	-49.0%
Positive months	67	71	68	72
Negative months	53	49	52	48

Source: MSCI Barra, MCA

It must be remembered that the period is not a typical period. Over the period, the sharemarket return was close to a nil return and after expenses would have been nil. In this unusual environment, an equally weighted portfolio out-performed by approximately 5% a year but resulted in a more volatile return. As expected, the number of positive months was higher with an equally weighted portfolio, reflecting the benefits of diversification.

Graphs of the relative returns are shown below. The first graph plots the equally weighted annual return less the standard market-capitalisation annual return. It highlights that the capitalisation index has done better over one year period at times of “extreme” uncertainty. Therefore, except for the early stages of the 2000 to 2003 market down turn and the 2007 to 2008 market down turn, equally weighted has done better. That impact of the advantage of the market capitalisation weighted portfolio has been relatively short-lived. This is highlighted in the second graph where the impact of a single year is reduced by using the average of 5 year annual returns. This minimises the impact, for example, of the short-term shift to the security of large shares in the early stages of the global financial crisis.



The natural question is “will the observed differences continue”? No one knows the answer to this, though mathematically it would be expected to occur. It represents the advantage of diversification in the absence of better information.

It must also be acknowledged that maintaining a perfect equally-weighted-portfolio is not realistic or practical. The costs of trading to buy and sell, following normal market movements, would reduce the return advantage. This would be the case except where there is strong positive cash flow that can be used to rebalance the portfolio.

1. Avoid "short-termism". The best approach to maximising the long-term average return is to always focus on the long-term and to adopt strategic risk management policies, to manage short-term events.

2. Understand the return. The return is made up of income (interest, rent and dividends) and the change in market value. While the total return is important long-term, short-term, it is the components that matter and the things that drive the return.

3. Focus on long term earnings and dividend flows. Momentum strategies rely on short-term price change not all of which reflect future earnings potential.

4. Better decisions are based on evidence. Don't use tools and models to make decisions. Use tools and models to help understand the range of outcomes that might happen.

5. Understand your objectives and the difference between a goal, a benchmark and the evaluation of performance. Set the performance target based on what is needed to achieve the liabilities.


6. Minimise fees and costs and do not pay performance fees. Performance fees reward the manager, not the investor as short-term returns are often due to market movement or luck and not skill.

7. Reduce portfolio turnover. Remember turnover costs money. If turnover gets above 30%, ask for evidence that it has improved the long-term average return. Force managers to focus on the long-term outlook after costs and not on short term events.

8. Avoid alternative investing, structured and synthetic products. Leave them for someone else. Buying hedge funds as a general policy position does not work. Investments should not be complex.

9. Insist on full transparency regarding strategies, costs, derivatives and trading. Work with other investors to demand this from the industry.

10. Become accountable for the investment outcomes and the compliance with these principles.



for better
long-term
returns

