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Investing Fundamentals:
A primer for Māori Organisations

Hōngongoi 2014

Images provided by Derek Renata of Hinaki Design

Haere e whai i te waewae o Uenuku,
kia ora ai te tangata.

Good fortune favours those, who through the attainment of knowledge are prepared.

Over the last few decades, driven primarily by the Treaty of Waitangi settlement process, more Māori Organisations are finding themselves as custodians of significant assets.

In many cases the direct management of those assets will be handled by trained financial professionals. However, many of the people involved in governance roles (such as trustees of a Rūnanga or PSGE) may have little or no formal financial training. We have produced this report as an educational tool for these individuals.

This report is intended to act as a "primer", outlining some of the fundamental concepts involved in investment decisions.

It is written with a specific context in mind: the management of investments held by Māori Organisations. This means that some of the asset management considerations are different from those focusing on traditional retirement savings, and that concepts such as intergenerational fairness are taken into account.

Please bear in mind that we have attempted to keep the report content from becoming too detailed, and by necessity this has required some simplification.

This report is not designed to turn trustees and govenors into investment experts. Rather, it is designed to help them have richer conversations with their advisers.

While the primary focus of this report is investment policy, we also touch on matters pertaining to the distribution of investment earnings. For further reading on the topic of distribution, we recommend our companion reports:

"Distribution and Spending policies: Consideration for Iwi", December 2012

"Iwi Distribution Policy: Supplemental Report", July 2014

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INVESTING FUNDAMENTALS

Introduction to Investing

What is investing?

Generally in finance, "investing" means putting money to work in order to make a profitable return for an expected level of risk. Examples of investments include term deposits, corporate bonds and shares (stocks). This is the context we use when referring to "investments" and "investors" in this report.

Other definitions

Economists use quite a strict definition, for a different context, and would refer to buying shares or putting money in term deposits as "savings" rather than "investments". They reserve the term "investment" for where there is an increase in the capital stock (e.g. using cash to develop a business or convert bare land into a productive enterprise). Buying shares off somebody else doesn't increase the capital stock, it just transfers ownership.

Sometimes the term "savings" is used to refer to cash that is put in the bank with the main objective of keeping it safe, rather than generating income. In this context the interest rate is generally low and the cash is considered idle.

Why invest?

Different investors have different reasons for investing money. The main goals of investors can generally be summarised as:

- Generating income.
- Growing wealth.
- Protecting wealth from inflation.

Investors need to be very clear about their goals before making important investment decisions.

Inflation is an important investment consideration, because it erodes the purchasing power of your money over time i.e. $1 in the future buys you less than what $1 can buy you today. We discuss this in more detail in section 6.

An investor may have more than one goal and their goals may change over time. For example, once a person retires they may focus more on receiving regular income than on growing their wealth. Another example is charitable organisations which need income today to pay for current projects and expenses, but also need to protect and grow their investments, to generate funds for future projects.

What types of returns are there?

- The income received from an investment is called the income return.
  - Examples are dividends, interest and rental income.
- The change in the value of an investment is called the capital return.
  - This can be negative or positive.
  - Examples include a change in share price and the change in the value of a property asset.
- The total return received from an investment is the sum of the income return and the capital return.

Income Return

Capital Return

} **Total Return**

Examples of Total Return:
- **Dividend received + Change in share price**
- **Rental income + Change in property price**

There can be instances where an investment generates income but falls in value. For example, a share may pay a dividend but also experience a fall in price due to changing market conditions.

Main Types of Investments

What is a security?

A security is a financial instrument (e.g. term deposit, bond, share, or unit in a managed fund) that represents ownership. Securities provide a means to make an investment.

What is the difference between direct investment and indirect investment?

- With direct investment, the investor owns the underlying securities in the portfolio[1] themselves i.e. they own the shares in companies, corporate bonds, term deposit, etc.
- Investors can also invest in managed funds. These funds pool together money from a range of investors and use that money to invest in securities on behalf of those investors.
  - The investors are the direct owners of the managed fund (via the shares or units issued by that fund). But the managed fund is the direct owner of the underlying securities in the fund's investment portfolio.
  - The investor in this case owns the securities in the fund's investment portfolio "indirectly" – via their ownership of the fund.

What types of investments are there?

There are two main types of investments: debt investments and equity investments.

Type	Description	Examples
Debt investments	**Investors lend money.** Investors usually receive regular interest payments and require their principal (the original amount lent) to be repaid on the maturity date of the investment.	Savings accounts, term deposits, debentures, corporate bonds and government bonds. *Bonds issued by Auckland International Airport trading on the NZX debt market (NZDX)*
Equity investments	**Investors own part or all of a company or property.** Investors share in the profits earned and any capital gains (or losses).	Investment in a residential or commercial property (e.g. an office building or farm). Shares in NZ and overseas companies (whether private or publicly listed). *Shares in Auckland International Airport trading on the NZX Main Board (NZSX).*

Please note: the examples used are purely illustrative. They are not recommendations.

1. The term "portfolio" refers to a group of investment assets.

Other types of securities are "hybrid securities" and "derivatives".

- **Hybrid securities** combine elements of both debt and equity. For example, a "convertible bond" can provide regular interest payments and also give the holder a choice of converting the bond into company shares on the bond's maturity date.
- **Derivatives** derive their value from other financial instruments. Examples include "futures" and "options".[2]

What is an asset class?

Debt and Equity investments can be split into groups of securities that have similar characteristics and behave similarly. These groupings are called "asset classes".

Asset classes are a key focus of portfolio managers and the term is often referred to during portfolio discussions.

The 3 main asset classes are tabled below.

Asset Class	Type	Examples
Cash equivalents	Debt investment	• Short duration (e.g. 30, 60 or 90 day, and in some cases up to 1 year) term deposits with banks • Cash "PIE"[3] investments e.g. BNZ Cash PIE • On call savings accounts • Managed funds investing in Cash e.g. AMP Capital NZ Cash Fund
Fixed Income	Debt Investment	• NZ Government bonds • Bonds issued by corporations and local authorities such as Fonterra and Auckland Council • Term deposits (other than short term) and bonds issued by banks • Managed funds investing in Fixed Income e.g. Russell Investments Global Fixed Interest Fund
Equities	Equity Investment	• Shares in companies listed on the NZX e.g. Telecom, Fletcher Building and Contact Energy • Shares in overseas companies e.g. Apple, Samsung, Nestle, Nike, Toyota, BP and Amazon • Managed funds investing in local and international shares e.g. Schroder Global Enhanced Index Fund, Tyndall Global Equity Hedged Fund and Templeton Emerging Markets Investment Trust.

Please note: the examples used are purely illustrative. They are not recommendations.

2. "Futures" are contracts that require delivery of an asset (e.g. a commodity or an amount of foreign currency) for a specific price, at a specific future date. "Options" are financial securities that give the holder the right, but not the obligation, to buy or sell an asset at a specified price, on either a specific date or over a set time period.
3. A "PIE" is a Portfolio Investment Entity (PIE), which has special tax rules.

So we've now split "debt investments" into two sub categories: Cash equivalents and Fixed Income. In investment conversations "Cash equivalents" are often referred to simply as "Cash". They include short term money market instruments that are easy to buy and sell (i.e. they are "liquid") and relatively safe, such as bank bills and short term bank deposits.

What other groupings do portfolio managers divide investment assets into?

Portfolio managers often expand the three main asset classes into additional sub-categories. This allows a more detailed breakdown into investment groups with common characteristics.

For example, the New Zealand tax system has different rules for overseas and domestic investments, and movements in the New Zealand exchange rate have different implications for domestic and overseas investments. So it is common to see Equities and Fixed Income investments grouped into domestic and overseas categories.

Furthermore, some investments have unique characteristics that warrant separate treatment. These are sometimes dubbed "alternative investments" and include:

- Real estate (property)
- Commodities (e.g. timber, precious metals)
- Hedge funds (these can invest in a wide range of investments, including derivatives)
- Private equity (shares in companies not publicly listed on an exchange)
- Infrastructure (sometimes included with "Equities" and sometimes treated as a separate group)

The table below summarises common asset categories used by portfolio advisors.

Common asset categories used by NZ portfolio advisers		
Debt Investments	**Listed Equities**	**Alternative Investments**
Cash	NZ Shares	NZ Property (unlisted)
NZ Fixed Income	Australian Shares	Hedge Funds
International Fixed Income	International Shares	Commodities
	NZ Property (listed)	Private Equity
		Infrastructure

Please note that portfolio advisors often differ in how they define the specific groupings they use and what they label an "asset class".

Often financial advisors refer to "Listed Equities" as "Equities". In that case, "Equities" refers to shares listed on public exchanges, such as the NZX, ASX (Australian Securities Exchange), NYSE (New York Stock Exchange) and LSE (London Stock Exchange). The term "Private Equity" is then used to separately identify companies whose shares are not traded in a public market.

Māori Organistions often hold unlisted (private) investments in fishing, forestry and farming. Many investment advisors are likely to class these as "Alternative Investments", such as "Private Equity" or "Commodities".

Overseas investments are sometimes hedged[4] by portfolio managers, in order to partially or fully remove the influence that movements in the New Zealand dollar has on returns.

Why are asset classes important?

How investments are allocated across asset classes is widely recognised as a key determinant of portfolio returns.

90%

Overseas studies show that differences in the weightings assigned to the various asset classes are responsible for around 90% of the differences in returns across different portfolios.[5]

Differences in the individual securities within those asset classes were shown to account only for around 10% of the differences in returns.[5]

10%

Asset classes are extremely important when it comes to diversifying a portfolio. Investments within a particular asset class are generally expected to be correlated to one another. In other words, they follow a broadly similar pattern over time. So, putting all one's investments in a single asset class (e.g. owning only shares or owning only bonds) is a bit like putting all your eggs in one basket.

4. Hedging refers to making an investment (e.g. in a derivative) to limit or offset the risk of loss in the value of a particular asset.
5. Source: NAB Private Wealth, "Choosing your asset allocation approach", 13 July 2012. ("NAB" refers to National Australia Bank Limited)

Risks and Returns

The concept of risk and return is a fundamental pillar of finance and investments.

Investment Risk

Investment Risk is the likelihood that the actual return from an investment will be different from what is expected.

- Often investors focus on the downside risk, i.e. the chance that returns will be less than they expect, including the possibility that they will lose some or all of their original investment.
- Risk is typically measured by calculating the standard deviation of historical annual returns. This shows the extent to which returns for an investment tend to vary away from their average level.

Investment Return

Investment Return is the total gain or loss received from an investment.

- Returns include both income received and the impact of capital growth or losses.
- Returns are often expressed as a percentage of the amount invested.

The risk-return trade-off

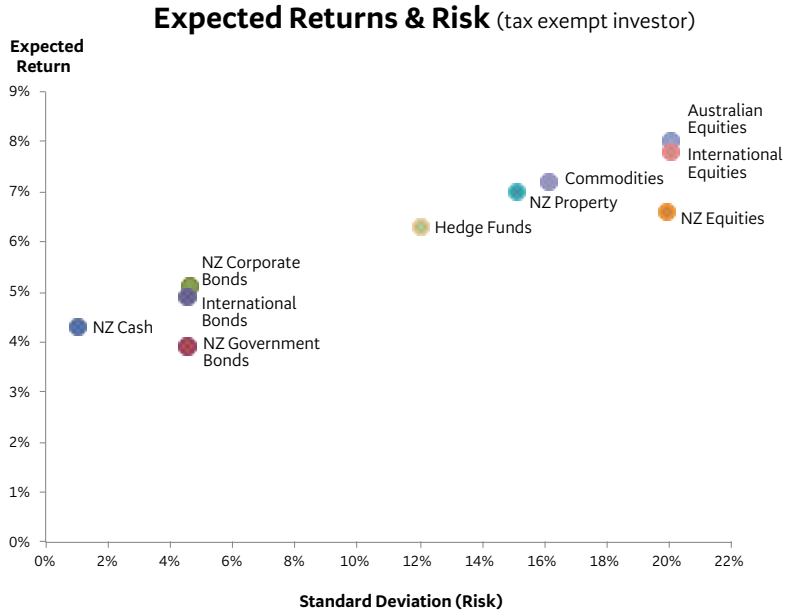
Risk and return go hand-in-hand. In order to earn a return, an investor must take on risk. Even investing in assets sometimes referred to as "safe", like government bonds, still carries an element of risk.

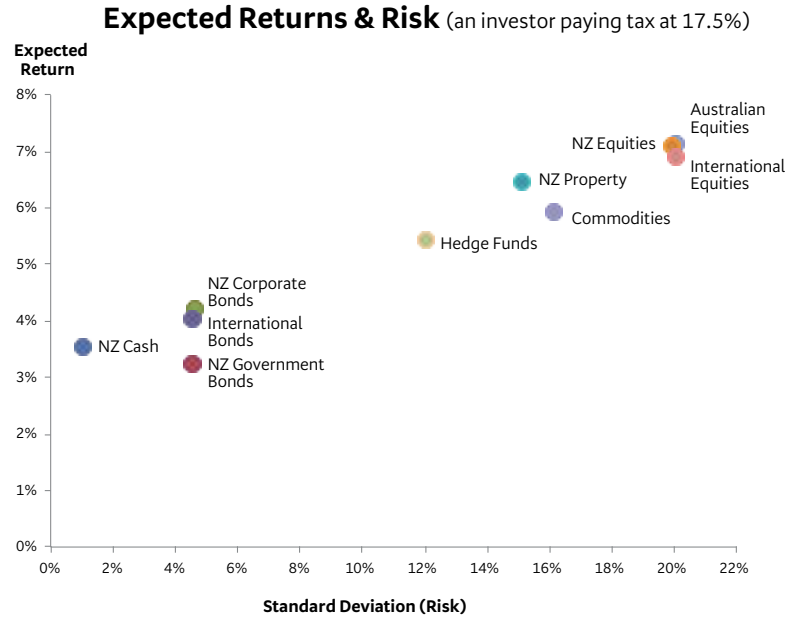
- Careful portfolio management can mitigate some risk, but increasing investment returns will usually necessitate taking on more short term volatility (risk).
- Over the long term, returns on equity investments tend to be higher than those for debt investments, but in the short term sharp falls in value are possible.

The composition of a portfolio is partly determined by the risk preferences (risk tolerances) of the investor.

The two charts below illustrate the trade-off between risk and return for different asset classes.

- The first chart assumes the investor does not pay tax (e.g. because they are a fully tax-exempt charity).
- The second chart assumes the investor pays tax at the Māori authority tax rate (currently 17.5%).





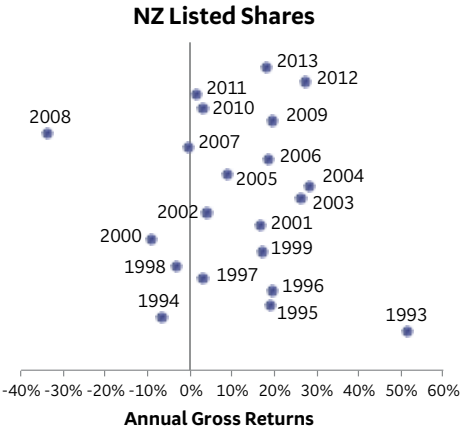
Please note:

1. The "Expected Returns" are indicative of returns after fees and **after investor tax** (where applicable). The figures are indicative levels only – they are not forecasts. They result from complex modelling, which draws on historic information.
2. It is very common for companies listed on the NZX to attach imputation credits to the dividends they pay. These imputation credits can be used by investors to offset tax.
   i. The calculations of "Expected Returns" for "NZ Property" and "NZ Equities" in the second chart include the effect of imputation credits and assume the investor can fully utilise them.
   ii. The "Expected Return" figures in the first chart do not include imputation credits, because the investor is not a tax payer and is assumed to be unable to utilise them.
3. The figures in the charts are based on calculations performed by BNZ Private Bank (April 2013).

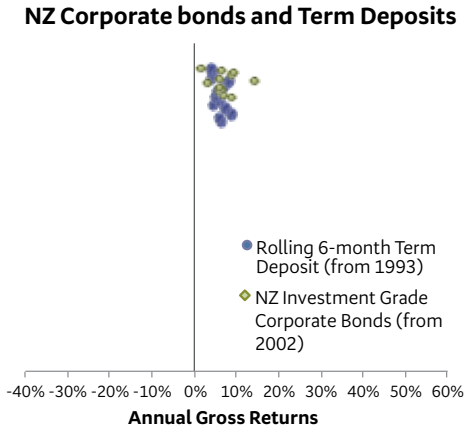
The previous charts provided snapshots of a single point in time. To illustrate how the patterns of historical returns can vary considerably for different types of investments, the following two charts look at investments at opposite ends of the risk-return spectrum.

The first shows the volatility in annual returns (how spread out they are) and the levels of annual returns (indicated by horizontal axis) for NZX listed shares. The second shows the returns and volatility for a rolling 6-month bank term deposit and "investment grade" NZ Corporate Bonds. The figures are before taxes and fees.

The scale used is the same for both charts. They clearly show how the lower risk investments have much less variability in returns than listed NZ shares, but lower returns overall.



Calendar year returns 1993-2013 for NZX Gross Index (sourced from S&P Capital IQ)



Calendar year returns 1993-2013 for a rolling 6 month Term Deposit (Reserve Bank of New Zealand raw data, annualised by BNZ); Calendar year bond returns 2002-2013 calculated by BNZ using the ANZ Investment Grade Corporate Bond Index.

Risk

Some of the risks associated with investing

Governance risk	Significant problems can arise if appropriate structures and controls are not put in place regarding fundamental investment decisions by the governing body (e.g. PSGE, Rūnanga Investment Board).
Inflation risk	Investments may not keep up with inflation and purchasing power is eroded.
Interest rate risk	Changing interest rates may impact on investment returns. For example rising interest rates can make existing bonds less attractive than new ones offering higher rates.
Currency risk	Exchange rate movements may impact on investment returns. For example, changes in the currency will affect both: (i) the NZD value of investment returns from overseas assets; and (ii) investment returns from domestic assets that are affected by the NZD, such as local exporters and importers.
Liquidity risk	The risk of not being able to access your funds quickly and easily.
Credit risk	The risk that an issuer of debt investments (e.g. bonds) doesn't meet their obligations (e.g. fails to pay interest or fails to fully repay a loan).
Regulatory risk	Changes in laws and regulations may impact investments.
Socio-political risk	The risk that instability in regions of the world affects investment markets.
Economic risk	Changes in the performance of the economy may impact investment returns.
Industry risk	Risks associated with a particular industry (e.g. a coffee bean shortage would affect the coffee industry).
Market timing risk	The timing of investment decisions may impact returns and the risk of capital loss.
Gearing risk	Borrowing to make investments accentuates highs and lows. The higher the borrowings, the greater the risk.
Market risk	The risk of generalised movements in asset markets (such as the share market) impacting investment returns.
Mismatch risk	The risk an investment portfolio may not match the needs of the investor.

Managing Risk

Investors can take significant steps to reduce the overall riskiness of their portfolio.

For example:

- Diversification is a key tool used to reduce risk (we discuss this further in the next section).
- Investing in assets whose earnings over time grow at a rate equal to or better than inflation (e.g. selected shares and property) can help protect against inflation risk.
- Investing in offshore assets can help reduce exposure to the performance of the local economy.
- Limiting investments in fixed interest securities to those issued by high quality issuers (e.g. those with a strong credit rating) helps limit credit risk.

This list is not exhaustive and we would strongly recommend investors seek specialist financial advice this area.

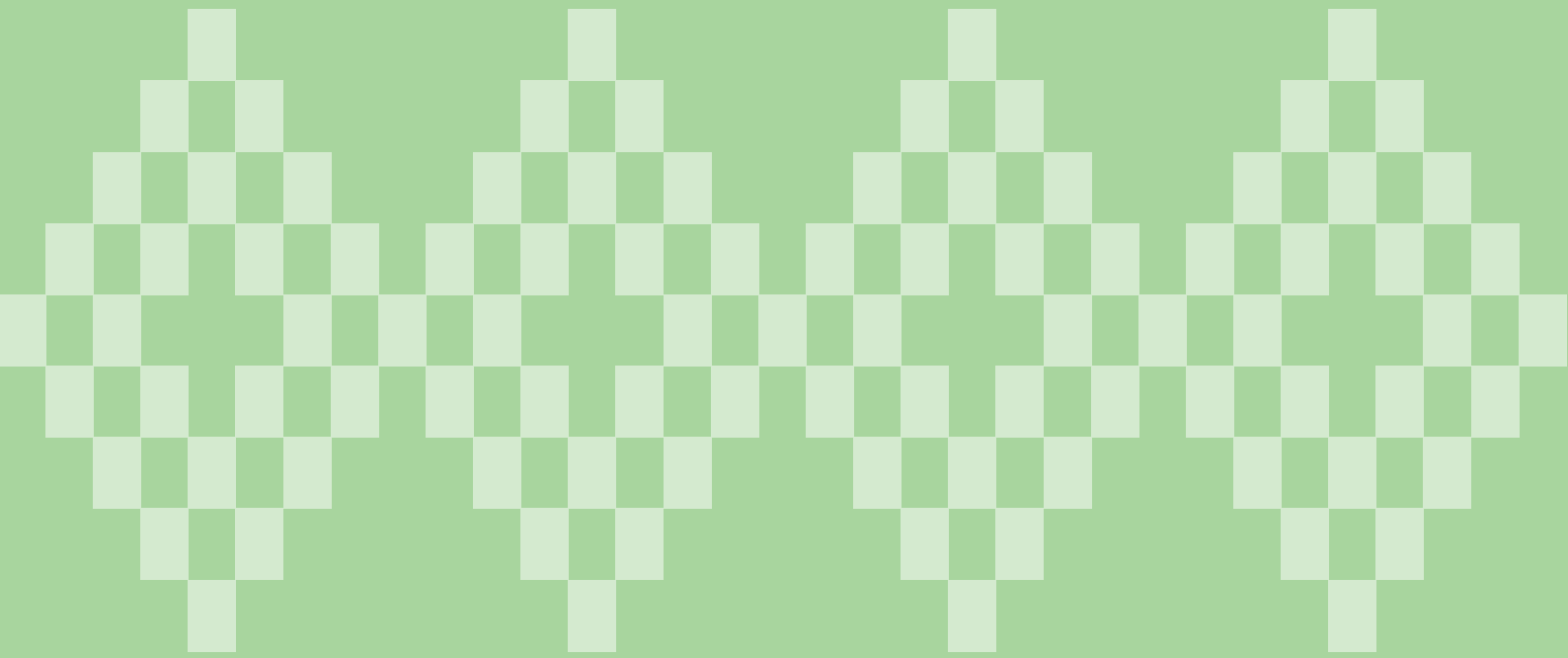
Documentation of Investment Policy

It is critical to ensure appropriate governance is in place from a very early stage. One important policy document is the Statement of Investment Policy and Objectives ("SIPO"), which can be used as a basis to supervise, monitor and evaluate the activities of an investment trust or similar organisation. A well-constructed and utilised SIPO can be an effective tool in both helping address governance risk and in guiding investment decisions.

Some of the areas to consider when Māori Organisations are developing investment policy

The key objectives of the organisation.
Investments may not keep up with inflation and purchasing power is eroded.
Protection of the investment from the effects of inflation.
The level of income to withdraw out of the organisation each year.
The amount of volatility/fluctuation in the value of the investment that will be tolerated.
The investment timeframe.
The asset allocation and guidelines for composition of each asset class.
The appropriate level of diversification.
Whether any investments or asset classes will not be permitted (e.g. shares in casinos and breweries may not have a place in portfolios with a strong social responsibility emphasis).
Appropriate benchmarks to measure performance against.
Reporting requirements and monitoring procedures.
The Organisation's tax policy.
The Organisation's policy for managing foreign currency risk.

Diversification:
"Different baskets, many eggs"



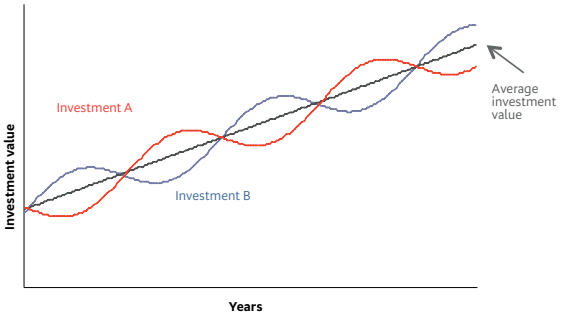
What is diversification?

Diversification is spreading your money across different investments. It is a tried and tested method of managing portfolio risk — the equivalent of putting your eggs in separate baskets.

The values of different investments don't move up and down in perfect synchronisation.

So by diversifying their portfolio, investors can benefit from reduced volatility (i.e. lower fluctuation) in their investments.

The effect of diversification is stylised in the diagram below. The returns from Investment A and Investment B follow different patterns. Combining both investments gives a smoother return profile (black line) than investing in just one or the other.



Correlation[6]

The key to diversification lies in 'correlation', which is a measure of how much the return of one investment moves in relation to the return of another.

Positive correlation	Where two investments move in the same direction as each other, up or down.
Random (not correlated)	The movements in one investment are unrelated to movements in the other.
Negative correlation	Where two investments move in opposite ways – when one is rising the other is falling (and vice versa).

Generally speaking:

- Combining assets with strong positive correlations provides limited or no diversification benefit (other than issuer diversification), as they are likely to rise or fall in the same market conditions.
- Combining assets that have perfectly negatively correlated returns can also have little or no value. While you could be effectively hedging all your risk of loss, you could also be cancelling out any potential gains.

In practice, investors generally seek to build portfolios with assets that have low or negative correlations, such as combinations of cash, bonds, property, commodities and equities. The final asset mix is often determined by software that uses the correlations, expected returns and historical volatility of different assets, to create an optimal portfolio for a targeted level of return or risk.

6. Some of the information in the Diversification section of this report has been sourced from: NAB Private Wealth, "Different baskets, many eggs", 29 January 2014

Diversification across asset classes

Returns from different asset classes are influenced by different combinations of factors. For example during the global financial crisis, when the prices of shares plummeted, government bonds and gold performed strongly. How money is distributed across asset classes is referred to as **Asset Allocation**, and as mentioned earlier, is a critical factor in determining portfolio returns.

Diversifying within an asset class

Although securities within a particular asset class can tend to have a high level of correlation with each other, there is still scope to achieve diversification benefits within asset classes. For example:

Diversification	Examples
Geographic markets	Including international shares as well as domestic shares in a portfolio spreads geographic risk across more than just one country and allows the investor to participate in returns from a wider range of investments. As an example, as at 30 April 2014 the NZ Superannuation Fund had 62% of its funds invested in overseas shares.
Industry sectors	Different industries are affected in different ways by external factors. For example, changes in the exchange rate will affect an exporter and a local construction firm differently. Including a mix of industries in a share portfolio can improve the stability of overall returns.
Fund managers	Often NZ investors will invest in overseas share markets via managed funds. Different fund managers have different styles and varying degrees of success, so sometimes it pays to invest in more than one fund. Investors can also invest in a multi-manger fund (a single fund that invests in a number of other managed funds).
Time	Having a mix of fixed income investments with different maturities helps smooth the effects of changes in interest rates.

Other considerations

- Correlation is a backward-looking calculation. Previously uncorrelated assets can become correlated or move together at times.
- There are diminishing benefits to diversification. For example, in a diversified share portfolio, once you get to about 25–30 companies, adding another one may have minimal diversification impact.
- For small investors with a limited amount to invest, it can often be difficult to create an adequately diversified portfolio. That's one reason for the popularity of managed funds and exchange-traded funds — they provide an easy way to achieve diversification with a single investment.

Special considerations for Māori Organisations

The path to diversification needs professional advice and a sound plan. It may take some time.

For some Māori Organisations it may mean retaining core property holdings and growing other investments over time. For others it may mean developing non-core land and then selling it. And for some with a small asset base and/or a very strong cultural affinity to all their land assets, the options may be limited. There are multiple possibilities and the outcome will vary according to each organisation's individual asset situation, values and objectives.

Even if a Māori Organisation decides to adopt only limited diversification, it is important to understand and quantify the trade-off, so decisions can be made with a thorough understanding of the implications.

Inflation

Introduction

Inflation has a significant influence on investments and investment decisions. It is defined as a general increase in prices (such as increases in the price of energy, fuel and groceries from one year to another). Inflation results in a loss of purchasing power of money.

In the presence of inflation, $1.00 in the future will buy you less than what $1.00 can buy you today.

Prices prevailing at any particular time are called "nominal prices". Prices after adjusting to remove the effects of inflation are called "real prices".

The New Zealand CPI

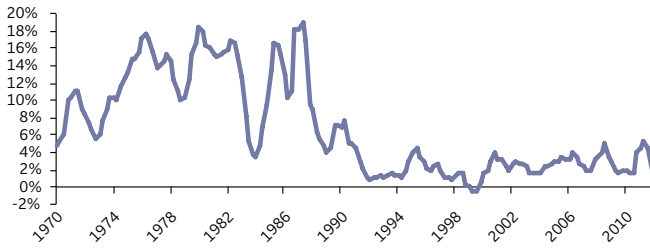
A price index used commonly in New Zealand is the Consumer Price Index (CPI). The CPI measures the changing price of a fixed basket of goods and services, intended to represent the spending patterns of New Zealand households. The change in the CPI, expressed as a percentage, is the CPI inflation rate.

The following chart shows the annual rate of inflation in the New Zealand CPI since 1970. Over the last 20 years inflation has been relatively stable, averaging 2.3% pa.

Significant influences on the inflation rate over the past 50 years have included:

- Oil shocks in 1973 and 1978, which caused large, sudden price rises.
- The introduction of GST in 1984, at a rate of 10%. The GST rate was increased by 2.5% in July 1989 and another 2.5% in October 2010, bringing it to the current rate of 15%.
- The introduction of the Reserve Bank of New Zealand Act in 1989. Since then the RBNZ has targeted inflation within a defined band. The 2012 "Policy Target Agreement" sees the RBNZ tasked with keeping inflation between 1% and 3% on average over the medium term, with a focus on the 2% midpoint.

Annual Rate of CPI Inflation in New Zealand



Declining purchasing power

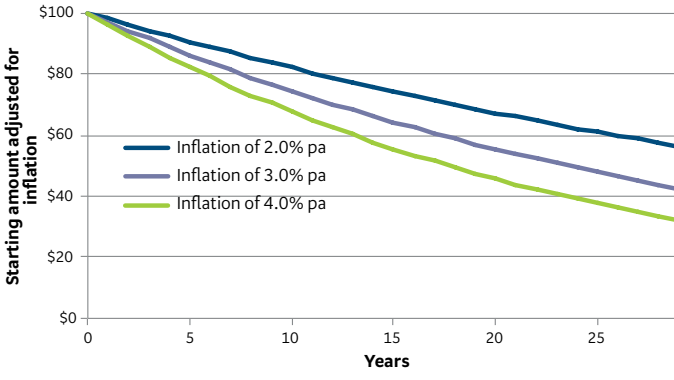
In the following chart we look at what might happen to the purchasing power of $100 today, if we incur inflation rates of 2% pa, 3% pa, or 4% pa over the next 30 years.

If inflation were to run at 2% pa (the RBNZ's midpoint and main focus), then in 30 years' time $100 would only be able to buy what $55 can buy today.

Another way of looking at this is: if $2.50 buys 1 litre of milk today, and milk prices go up 2% pa, then in 30 years' time the same $2.50 will only buy just over half a litre of milk (550mls).

If inflation were to run at a rate higher than 2%, the erosion in purchasing power would be more severe.

The effect of inflation on purchasing power over 30 years



Implications for investors

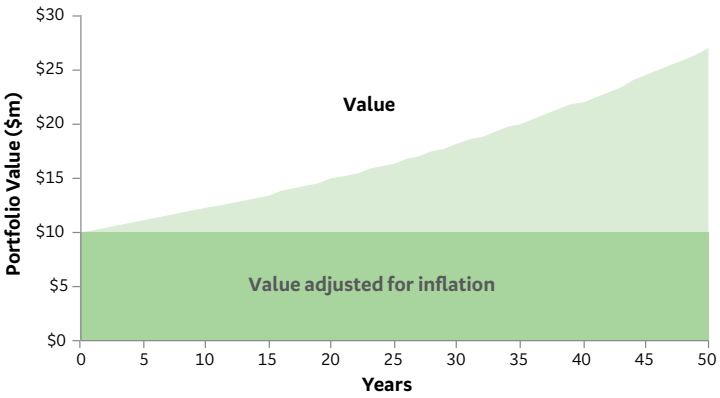
If an investor wishes the annual returns from their portfolio to be able to buy just as much in the future as they can today, then they will need to re-invest some of those returns to compensate for the effects of inflation. This is a very important consideration for inter-generational investors such as many Māori Organisations.

The chart below demonstrates this point.

- Inflation is assumed to run at 2% pa.
- The investor is assumed to increase the amount they have invested by 2% each year, to match inflation.
- Other returns from the portfolio (after all fees and taxes) are assumed to be withdrawn from the portfolio for spending purposes.
- The value of the portfolio, after adjusting for inflation, has not grown over the 50 year period.

In the above example, the underlying "real" wealth of the investor remains unchanged. The "nominal" value of the portfolio has grown just fast enough so that the returns it produces will buy the same basket of goods after 50 years as they could at the start of the period. (Please note – we are making a number of simplifying assumptions here).

Portfolio before and after adjusting for inflation



A key metric for Māori Organisations to focus on is the "net real return"

Total Annual Return *minus* Tax *minus* Fees *minus* Inflation = **Net Real Return**

The Net Real Return represents the true growth in the investor's wealth. It represents how much is left over after providing for inflation protection. This amount can then be allocated between: (i) annual withdrawals for spending ("distributions"); and (ii) re-investment to grow the asset base beyond what is merely required to offset inflation.

- The figure will vary according to the investing entity's tax position. We have not covered tax in detail in this report, and instead recommend that investors seek professional advice specific to their circumstance.
- In some cases it might be useful to divide the Net Real Return by the number of members a Māori Organisation has and incorporate that metric into monitoring and decision making. Dividing the total value of the portfolio after adjusting for inflation by the number of members can be another useful metric.

Inflation and asset classes

Assets are affected differently by inflation. Generally speaking, an inflationary environment tends to favour growth-oriented asset classes over income-oriented asset classes. For example:

- If costs rise because of inflation, companies can sometimes pass these increases on to their customers. This ability helps companies maintain profits, and by implication, dividend payments.
- In contrast, the annual interest payments from many long term bonds are constant over the life of the bond. This means that if inflation rises then the return from the bond in "real" terms (i.e. inflation adjusted) is eroded.

Distribution policy considerations

Let's compare two hypothetical portfolios of $10 million, one earning returns of 6% pa after tax and fees and a more conservative portfolio earning 4% pa after tax and fees.

- If each portfolio manager paid out all their returns each year, their investors would receive $600k and $400k each year respectively. One group of investors receives a payout 50% higher than the other, in exchange for incurring more risk.
- If, however, each portfolio manager decided to re-invest 2% of the portfolio's value each year in order to protect against inflation, $200k of each portfolio's returns would be required for that purpose. So the remaining amounts paid out to investors would now be $400k and $200k. One group of investors now receives a payout 100% higher than the other, in exchange for incurring more risk. This is not necessarily a "bad" thing. It might just mean that one investor has a very strong preference for low risk, and is willing to forgo higher returns to achieve that very low risk.

However, achieving ultra-low risk within the investment portfolio may mean the returns available for annual withdrawals (after inflation protection) won't be sufficient to meet the organisation's spending needs. At the other extreme, too high a level of portfolio risk runs the risk of substantial investment losses and reduced ability to generate future returns for spending. There is a trade-off here that needs to be balanced.

Very conservative portfolios might only be able to generate quite a small surplus each year for distribution, once inflation protection is allowed for.

Compounding

"Compound interest is the eighth wonder of the world. He who understands it, earns it ... he who doesn't ... pays it" – *Albert Einstein*[7]

Compounding is an important feature of investing. It refers to re-investing the returns earned by investments (rather than withdrawing them) to earn further returns. For example, if interest earned from a term deposit is re-invested into another term deposit, the investor will effectively earn "interest on their interest".

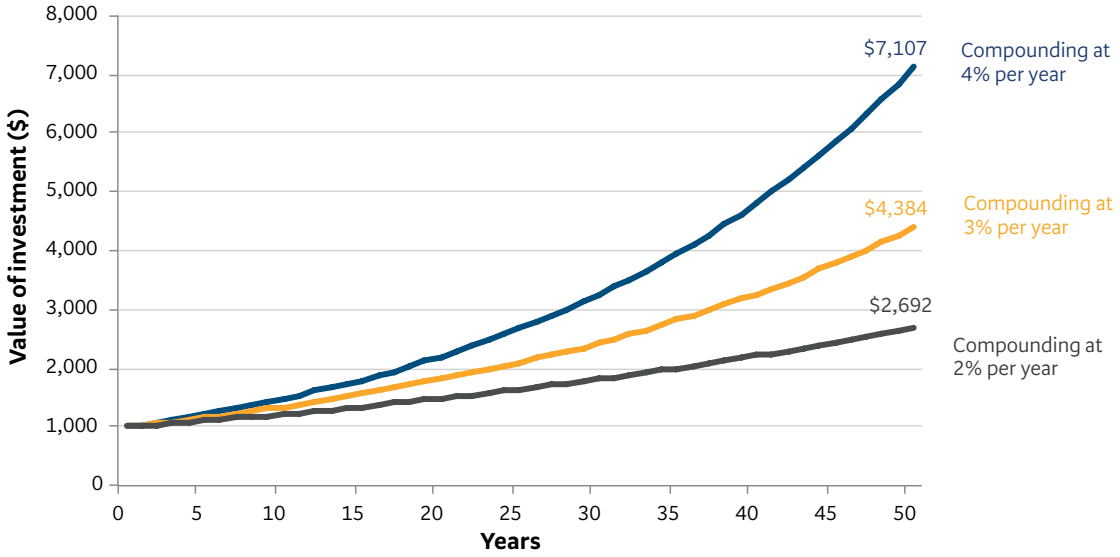
The impact of compounding builds up over time, and can generate a snowball effect, as illustrated in the chart below. The chart shows the effect of three different compound rates over a very long period.

- The chart assumes a starting value of $1,000.
- A compound rate of 2% means 2% of each year's starting value is invested at the start of the following year. For example:
  - At the end of the first year, 2% x $1,000 = $20 is added to the investment portfolio, bringing it to $1,020.
  - At the end of second year, 2% x $1,020 = $20.40 is added to the investment portfolio, bringing it to $1,040.40.
- The figures at the end of each line show where each portfolio would end up after 50 years.
- If inflation ran at 2% pa over the 50 year period, then the bottom line would represent a portfolio that has just managed to keep up with inflation.

Compounding is a factor of particular relevance to Māori Organisations when they are considering their distribution policy (i.e. what portion of investment earnings to withdraw each year to meet current spending needs and what portion to re-invest) and are balancing preferences for spending now versus growing wealth.

The effect of compounding builds up over time, and many Māori Organisations have a long term, intergenerational perspective. Long-term financial modelling can assist decision making in this area.

The Effect of Compounding



7. http://www.quotesonfinance.com/quote/79/Albert-Einstein-Compound-interest

Portfolio Strategy and Asset Allocation

Income investments and Growth investments

In general:

- Cash and Bonds are viewed as income-oriented asset classes. They harvest income from the investment; and
- Shares ("Equities") are viewed as a growth-oriented asset class. They aim to grow the value of the investment.

Typically (but not always), an income-oriented asset is less volatile (lower risk, lower return) and a growth-oriented asset is more volatile (higher risk, higher return).

The above classifications focus on key features. However, it is also worth noting that:

- Some growth assets also produce income (e.g. company dividends).
- Some income assets can produce capital growth. For example, bond values may rise if interest rates fall.
- Some income assets can produce capital losses. An example here is the series of failures of New Zealand finance companies over 2006/2007 and consequent losses of capital by investors.

Asset Allocation[8]

What strategies do portfolio managers use when allocating investments across asset classes?

When it comes to determining the right asset mix for a portfolio, there are two main strategies investors use:

- **Strategic Asset Allocation (SAA); and**
- **Tactical Asset Allocation (TAA).**

Strategic Asset Allocation

Strategic Asset Allocation (SAA) attempts to balance a portfolio's risk and return through target weightings of different asset classes.

- For example, a SAA strategy may target a 30% investment in shares, with 20% in cash and 50% in bonds.
- The weightings should reflect the investor's return objectives, risk tolerance and constraints such as time horizon and liquidity requirements.
- In general, a conservative portfolio will have a higher weighting of cash and low risk bonds, whereas a portfolio seeking higher returns will have more emphasis on shares and may include more risky bonds.

SAA is based on the idea that different asset classes offer returns that are not perfectly correlated. As discussed earlier, this lack of correlation provides diversification to the portfolio, reducing the overall risk for a given level of potential return. By combining different asset classes, sectors, securities and investment styles that are relatively uncorrelated and do not perform in exactly the same manner under different economic scenarios, it is possible to:

- reduce the level of risk for a given level of return; or
- increase the level of return for a given level of risk

SAA models are based on "time in the market". They seek to navigate through the peaks and troughs of individual investment cycles. Returns are generally more volatile and unpredictable over the short term than over the long term. This means there is a greater chance of achieving investment objectives over the long term.

8. Some of the information in this section has been sourced from: NAB Private Wealth, "Choosing your asset allocation approach", 13 July 2012

Generic Examples

The chart below shows the indicative risk versus return profile for three hypothetical portfolios, with different weightings to the various asset classes.

- The centre of each pie approximates each portfolio's position.
- A range of other portfolio mixes is also possible.
- A key change as the portfolio moves from conservative to more growth oriented is an increase in investments in Equities and a decrease in investments in Fixed Income and Cash. Commensurate with this is an increase in both risk and expected return.

Please note that "Expected Returns" include imputation credits and are **prior to deducting tax**. Including imputation credits means the chart is representative of gross (i.e. pre-tax) returns attributable to a domestic tax-paying investor.

Expected Return versus Risk (pre tax)

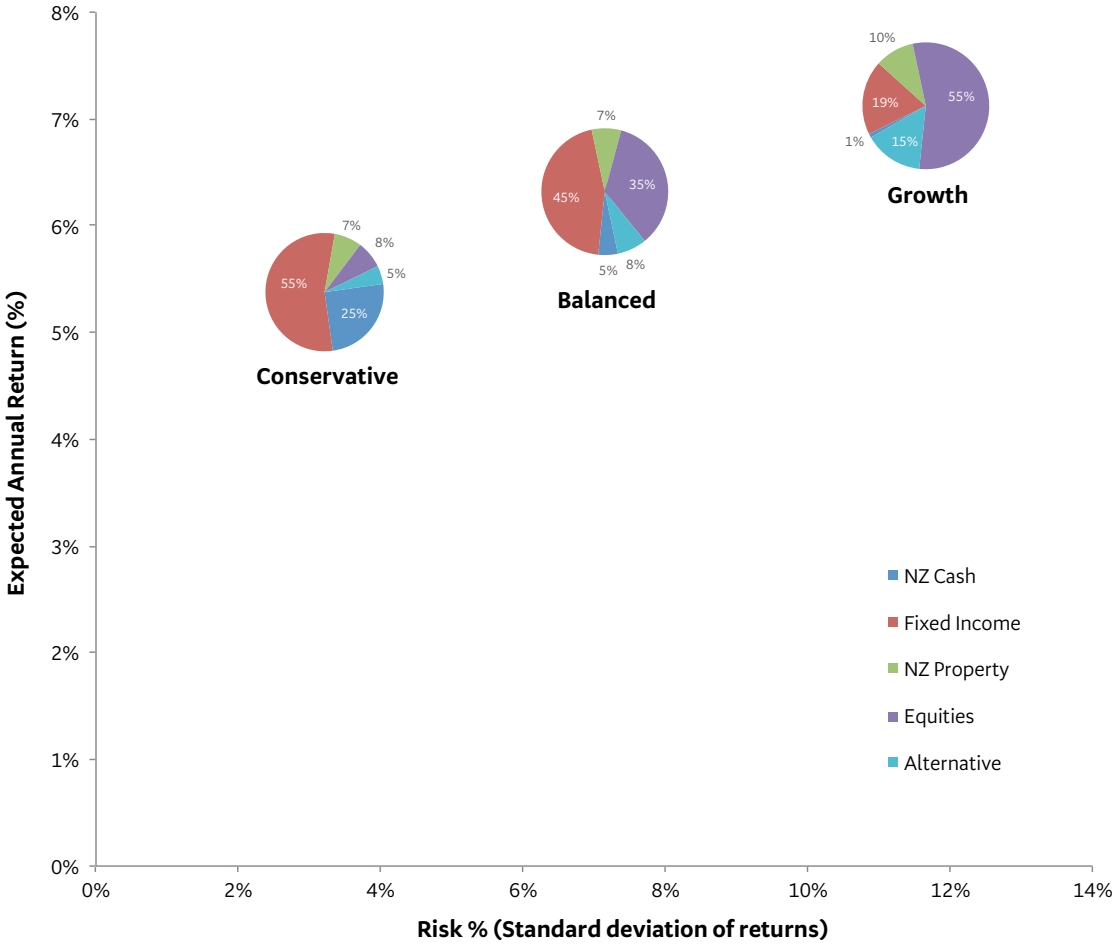


Chart notes: Underlying figures are sourced from BNZ Private Bank."Expected returns" are indicative levels, after fees but before deducting tax. They are on a nominal basis and have not been adjusted for inflation. They include imputation credits (which have value to tax-paying investors).

The "Alternative" category refers to Hedge Funds and in some cases may also include Commodities. "Equities" can include NZ, Australian and global equities (shares). "Fixed Interest" includes NZ Fixed Interest and International Fixed Interest securities.

Implications of portfolio mix for a Māori Organisation's distribution policy

The portfolio mix has significant implications for the amount that Māori Organisations can sustainably withdraw from their portfolio each year for spending purposes.

As an example, we assume that a hypothetical Māori Organisation has a policy to re-invest annual portfolio returns at the rate of inflation. The means that any withdrawals (distributions) are made from the returns left over after the inflation-proofing investment has been made.

We start with the Conservative, Balanced and Growth portfolios used in the previous chart. If we deduct tax (where applicable) from the "Expected Annual Returns" and then deduct 2.1% for assumed for inflation, we end up with the following indicative estimates:

Assumed annual returns, after tax, fees and inflation

Portfolio	Non tax-payer	Tax payer at 17.5% tax rate
Conservative	3.1%	2.3%
Balanced	4.0%	3.3%
Growth	4.7%	4.1%

Note: These figures are for illustrative purposes only. Actual levels may differ considerably.

- If the investing organisation is a tax-exempt charity, then the **maximum** amount available for withdrawal each year will, in this example, be between 3.1% and 4.7% of the portfolio, depending on the asset mix in the portfolio.
- If the investing organisation needs to pay tax (where applicable) on investment returns, at the Māori authority tax rate of 17.5%, then the **maximum** withdrawal amounts each year will be between 2.3% and 4.1% of the portfolio, depending on the asset mix in the portfolio.
- Withdrawals at these maximum levels will not grow underlying wealth. Wealth will just be maintained against the corrosive effect of inflation. (Please refer to the earlier section on Inflation for further discussion.)

Tax payable varies across different investment types and different organisational structures, and a detailed discussion is beyond the scope of this report. We recommend specialist advice in this area, to ensure the mix of investments best suits your organisation.

Actual asset allocation examples: Permanent and very long term investment funds

The table below illustrates the asset allocation for a selection of three quite different funds that all have a permanent or very long term investing focus.

- The objectives of each fund won't match perfectly with the objectives of Māori Organisations, but they do share various features, including some or all of:
  - a very long term perspective;
  - a desire for inflation-proofing; and
  - a requirement for annual withdrawals for spending purposes.
- A common theme is a strong emphasis on growth assets.

	New Zealand Superannuation Fund	Yale University Endowment Fund	Alaska Permanent Fund
Asset Allocation			
Cash		2%	
Fixed Income	11%	5%	27%
Domestic Equities	5%	6%	11%
Global Equities	62%	10%	32%
Property	6%	20%	11%
Timber	5%		
Infrastructure	4%		3%
Private Equity	3%	32%	5%
Other	3%		
Rural farmland	1%		
Natural Resources		8%	
Absolute Return		18%	8%
Other			5%
Comments:	Long term investor. Eventually withdrawals will be made from the fund to assist the Government to meet the cost of NZ Superannuation. Currently withdrawals are not expected to start until 2029.	Provides cash flow each year to help fund the university's operating budget while also preserving the fund's purchasing power for future generations. In the 2013 fiscal year the fund provided US$1.02 billion of the University's operating income.	A dedicated fund owned by the State of Alaska, which aims to benefit all generations of Alaskans. Fund income is partly used to inflation-protect the principal. Most spending from the fund has been in the form of dividends to Alaska residents.
Fund Size	NZ$ 25.5 billion	US$ 20.8 billion	US$ 51.2 billion

Sources: New Zealand Superannuation Fund, "Monthly Performance and Portfolio Report – April 2014". 2013 report of The Yale Endowment. Yale figures are as at 30 June 2013. Alaska Permanent Fund - Trustees Monthly Performance Report – April 30, 2014. http://www.apfc.org/home/Content/aboutFund/aboutPermFund.cfm

Notes: "Domestic Equities" refers to NZ Equities for the NZ Superannuation Fund and US Equities for the Yale and Alaska funds. Figures do not always add to exactly 100% due to rounding. Classifications vary across funds, so definitions may not have been used with 100% consistency. Yale defines "Absolute Return" strategies as a distinct asset class. In broad terms, the strategies they employ rely on specific corporate events (such as mergers) or seek to take advantage of opportunities where assets are trading quite differently from their underlying economic value.

Tactical Asset Allocation

Tactical Asset Allocation (TAA) seeks to take advantage of perceived opportunities that exist in one asset class relative to another at different times in the investment cycle.

- For example, shares may be seen as significantly under-valued, while cash and bond yields are at record lows. In this scenario, a TAA approach may adjust the weighting to favour shares, reducing the allocation of cash and bonds.

When making asset allocation decisions, a TAA approach considers factors such as relative valuations, momentum and investor sentiment. The approach can be discretionary (i.e. based on the informed judgement of investment professionals) or driven purely by sophisticated software models.

TAA decisions tend to have shorter-term time horizons than SAA decisions, with some strategies even trading daily between asset classes. As such, TAA strategies are effectively "timing the market" — attempting to pick peaks and troughs to maximise short term returns.

It is important to note that many financial professionals believe that it is exceptionally hard to correctly determine the high and low points of a market. Assets that look cheap may get cheaper, and overvalued assets may continue to rise.

In an attempt to capture the benefits of each strategy, some portfolio managers try to combine SAA and TAA approaches.

High level summary of the overall process

There are many steps and lots of detail involved in the investing and investment management process. To avoid getting bogged down in the detail, here's a high level summary that may assist as a reference point:

1. Establish investment objectives
2. Formulate asset allocation that suits return objectives, risk tolerances and constraints such as time horizon and liquidity requirements
3. Establish initial portfolio (populate the asset classes)
4. Ongoing maintenance – monitoring, reporting and rebalancing

And throughout the process:

- Seek appropriate professional advice
- Establish appropriate controls and policy documents

Investing can be a complex process and we strongly recommend investors seek appropriate professional advice, including tax advice.

Choosing a Financial Advisor

The world of investing can get very complex and it is important that Māori Organisations seek appropriate professional advice (e.g. financial, tax, legal and accounting). Making decisions without appropriate advice, or choosing a poorly qualified financial advisor, can have disastrous results. We strongly suggest that Māori Organisations take a disciplined approach in this area and undertake an appropriate due diligence process when selecting an advisor.

That process could include questions such as:

- Has the advisor provided full disclosure and asked enough questions to fully understand the objectives, timeframe, drawdown requirements, tax structure and risk tolerance of the entity?
- Has the advisor provided a comparison between their historical performance and an appropriate benchmark?
- Will the service provider provide online access to view portfolio valuations, run performance reports and reconcile cash and non-cash transactions?
- What procedures are in place if the advisor does not meet any of the rules outlined in the investment entity's Investment Policy Statement (or "SIPO")?

We would stress that this is only a sample of the types of questions to ask when choosing a financial advisor. A full list is much more comprehensive, and would thoroughly cover aspect such as governance, the advisor-client relationship, the ability to deliver an appropriate investment solution, performance benchmarking, fees, and monitoring procedures.

Useful Internet Sites

New Zealand and Australian organisations

BNZ Private Bank	http://www.bnzprivatebank.co.nz/
Financial Markets Authority Te Mana Tātai Hokohoko	http://www.fma.govt.nz/
New Zealand Superannuation Fund Te Kaitiaki Tāhua Penihana Kaumatua ō Aotearoa	http://www.nzsuperfund.co.nz/
Australian Securities & Investments Commission (ASIC)	https://www.moneysmart.gov.au/tools-and-resources/publications#investing
NZX	https://www.nzx.com/
Reserve Bank of New Zealand Te Pūtea Matua	http://www.rbnz.govt.nz/

Examples of overseas endowment and long term funds

Yale Investments Office (manages Yale University's endowment)	http://investments.yale.edu/
Stanford Management Company (manages Stanford University's endowment)	http://www.smc.stanford.edu/
Harvard Management Company (manages Harvard University' s endowment)	http://www.hmc.harvard.edu/
Alaska Permanent Fund Corporation (manages the Alaska Permanent Fund)	http://www.apfc.org/home/Content/home/index.cfm

Appendix 1:
Examples of different types of investments

1. Shares

The terms 'stocks', and 'shares' and 'equities' are often used interchangeably.

A share represents proportional ownership of a company. Owning a company's shares allows investors to participate in the profits (and losses) of a company, by way of:

- Dividends; and/or
- Changes in the share price.

The stability of dividend levels and the proportion of profits paid out as dividends varies across different types of companies.

Quick Facts: Shares

"Listed" shares trade on a stock exchange and are therefore accessible to the wider investing public.

- Listed shares are assigned "ticker codes" for identification purposes.
- The share price represents the market's perceived value of the company.
- Some companies are listed on more than one stock exchange.

Shares are often included in a portfolio to provide capital growth, in order to:

1. Mitigate the effects of inflation; and
2. Grow the value of the investment

Many portfolio managers investing in companies listed on the NZX tend to focus on the larger companies, such as the shares in the NZX50 Index, because they usually have greater liquidity (easier to buy and sell) and better research coverage (more analysts writing research reports on the company).

Tax treatment varies across different types of investors and different markets.

Investing in Australian and other overseas equities gives a NZ investor's portfolio diversification benefits. It reduces the extent to which the portfolio's fortunes are tied to a single country. It also means a portfolio can spread it assets across a wider range of industries, rather than be limited to the industries on the NZX.

NZ investors in overseas equities are exposed to movements in the value of the New Zealand dollar relative to the overseas currency. As a result, some investors choose to mitigate this currency risk by hedging their exposure back to New Zealand dollars.

Examples: NZ, Australian and Global Equities

Listed company	Ticker	Exchange	Exchange website
Auckland International Airport	AIA	NZX	www.nzx.com
Ryman Healthcare	RYM		
Sky Network Television	SKT		
Woolworths	WOW	ASX	www.asx.com.au
National Australia Bank	NAB		
Origin Energy	ORG		
GlaxoSmithKline	GSK	LSE	www.londonstockexchange.com
Marks and Spencer	MKS		
Vodafone Group	VOD		
McDonalds Corp	MCD	NSYE	www.nyse.nyx.com
General Electric	GE		
Johnson & Johnson	JNJ		

Important note: These are examples only. They are not recommendations.

2. New Zealand Listed Property

This category refers to property companies and property trusts listed on the NZSX (the New Zealand stock exchange's main board).

Examples: NZ Listed Property

Property company	NZX Ticker
Kiwi Income Property	KIP
Goodman Property Trust	GMT
Property for Industry	PFI
Argosy Property	ARG

3. Bonds

A bond is a common form of "fixed income" security. It represents the ownership of a cash loan made to the borrower (e.g. a government or a corporation) by the investor.

Bonds generally make frequent interest payments, and repay the original investment at the bond's maturity.

- Interest payments are referred to as "coupons"
- The original investment in a new bond is referred to as the "principal".

The coupons are typically expressed as a percentage of the issue price of the bond (the "face value" or "par value"). This percentage is sometimes called the "nominal yield" or "coupon rate"

Example: A bond with an issue price of $100 and a coupon of $5 per year has a coupon rate of 5.00%

Investors may purchase bonds in the primary market, which is when they are initially issued. After issue, many bonds can be bought and sold in a "secondary market", such as the NZX Debt Market (NZDX, https://www.nzx.com/markets/NZDX). The values of bonds will fluctuate between the time of issue and maturity.

- Changes in price mean the returns to the purchaser of a bond frequently differ from the coupon rate the bonds were issued at.
- Bonds sold prior to their maturity can often result in capital losses or capital gains.
- A measure called the "yield to maturity" shows the effective annual returns to the purchaser of a bond, taking account of both future coupon payments and any difference between the price paid for the bond and the face value paid out on maturity.

If the issuer of a bond becomes insolvent, the investor may lose some or all of their investment (including both their principal and outstanding interest they are owed).

Quick Facts: Bonds

Two key factors influencing the value of a bond are:

- **Interest rates:** The value of a bond is inversely related to movements in interest rates. All else being equal, as interest rates increase, the value of a bond will usually decrease (and vice versa).
- **Credit risk:** The risk that the borrower is unable to make timely interest and principal payments. As the credit risk of the borrower increases, the value of the bond usually decreases (and vice versa). Credit risk is often assessed by credit rating agencies, which provide a credit rating for the borrower and the bond. In principle, the higher the credit rating, the lower the expected risk of default (and vice versa).

Investors in Fixed Income securities often stagger their investments across a variety of maturity periods.

International Fixed Income securities are affected by the value of the New Zealand dollar relative to other foreign currencies. Many investors often choose to mitigate the effect of foreign currency fluctuations by hedging currency exposures back to New Zealand dollars

Bonds are either classified as investment or non-investment grade based on the ratings assigned by ratings agencies.

- Non-investment grade bonds are also known as 'junk' or 'sub-investment grade' bonds.
- Many investors avoid investing in non-investment grade bonds, unless they are sophisticated enough to actively manage and monitor such exposure.

Quick Facts: Bonds

Some bonds pay a fixed coupon over the life of the bond (e.g. 6.0% pa). In this case, the investor knows what cash flows to expect over the life of the bond. In contrast, some bonds (such as "Floating Rate Notes") pay a variable rate of interest, which resets regularly relative to a predetermined benchmark. The period for resetting the rate varies (e.g. 180 days, 1 year, 5 years, etc.).

- For example, a hypothetical 5-year bond may have its rate reset each year, with each new rate calculated as: the prevailing 1-year benchmark interest rate at the time of reset, pus a fixed margin (determined at the time of issue). In this case, if the 1-year benchmark rate was 4% at the time of reset and the fixed margin was 2%, then the interest rate for the following 12 months would be 6%. In this situation the investor only knows what cash flows to expect during the period up until the next reset date.

Bonds and other Fixed Income securities are generally considered to be defensive assets. They are typically included in a portfolio to provide capital stability and a stable stream of income. They also provide diversification versus other asset classes in the portfolio, such as equities.

Some bonds (but not all) trade frequently and can be liquidated promptly should the need arise.

Examples of bonds listed on the NZDX

Issuer	NDZX Ticker	Maturity	Coupon Rate
Auckland International Airport	AIA120	13-Dec-2019	4.73%
Fonterra Co-operative Group	FCG020	4-Mar-2016	6.83%
Auckland Council	AKC050	29-Sep-2017	6.52%
New Zealand Government	GOV410	15-Apr-2023	5.50%
Transpower New Zealand	TRP020	6-Sep-2019	5.00%

Please note: These are examples only, not recommendations.

As per previous comments, the returns to an investor buying a bond in the secondary market are not the same as the coupon rate.

- Many bonds trading on the NZDX are "yield traded" and their yields are shown on the NZDX website https://www.nzx.com/markets/NZDX/bonds.
- Some Fixed Income securities are "price traded", and estimating their expected returns to investors may require additional analysis.

4. Cash ("Cash Equivalents")

Cash is generally considered the least-risky asset class. It is sometimes included in an investment portfolio to reduce the variability of returns and provide liquidity.

One advantage of holding Cash is that it will almost always generate positive returns, albeit often very low.

However, it is worth noting that Cash is highly susceptible to the risk of inflation because the returns received on Cash are often not enough to compensate for the losses caused by inflation.

New Zealand has experienced some periods of relatively high short term interest rates in the past, which may have compensated for prevailing inflation. However, over time this is not always the case.

Examples of "Cash Equivalents"

- On call savings accounts
- Bank term deposits with short terms. For example, 30, 60 or 90 days – and in some cases up to one year.
- Cash "PIEs" (on call funds offering the benefits of the Portfolio Investment Entity regime)
- 30, 60 and 90 day Bank Bills
- Promissory notes

Note: Some of these products may not be directly available to retail investors.

5. Commodities

Ways of investing in commodities include:

- Shares in managed funds specialising in investing in commodities
- Shares in Exchange Traded Funds ("ETFs") designed to provide exposure to commodity returns
- Direct purchase of the physical commodity

There are various other means, some of which are more suited to sophisticated investors, like the managers of commodity funds and commodity ETFs. For example, "Futures" contracts on commodities such as oil, gold, natural gas and corn.

Examples of Commodity Investments

- Pathfinder Commodity Plus Fund
- Metal bullion (e.g. gold, silver)
- SPDR Gold Shares (ticker GLD US) – an ETF designed to reflect the performance of gold bullion

Please note: These are examples only, not recommendations.

6. Managed Funds and Exchange Traded Funds

A managed fund is a pooled investment. Here, a fund manager establishes a trust or company which pools the money of multiple investors. The fund manager then invests and manages the money on behalf of the investors in the fund and receives a fee for this service.

A managed fund can be an alternative to, or an addition to, an investor directly holding individual shares or bonds themselves. For example, instead of buying shares in a range of global companies, an investor may just invest with a fund manager, or managers, that invest in a diversified range of global shares.

Exchange Traded Funds (ETFs) trade on stock exchanges, in the same way that shares in companies do. They tend to focus on tracking a particular index (like the NZX or the S&P 500) or a basket of assets with a particular theme (e.g. "commodities").

There is a vast array of managed funds and ETFs (including funds that invest in multiple other funds) and detailed coverage is beyond the scope of this note. We have touched on a few examples of managed funds in earlier sections. The table below shows a few additional examples, to provide a flavour of the breadth of coverage.

Examples of Managed Funds and Exchange Traded Funds

Fund	Focus
AMP Capital NZ Fixed Interest Fund	An actively managed portfolio of predominantly New Zealand fixed interest investments.
Russell Investments Global Fixed Interest Fund	Provides exposure to an actively managed global fixed interest portfolio.
Devon Australian Fund	Invests in a diversified portfolio of shares in 25-35 Australian companies.
Black Rock World Mining Trust	Invests in a world-wide portfolio of mining and metal securities.
Monks Investment Trust	Invests primarily in a portfolio of international equities.
SPDR S&P 500	An ETF that seeks to provide investment returns (before expenses) that correspond to those of the S&P 500 Index.
SmartTENZ	One of the NZX ETFs. Provides exposure to the companies in the NZX 10 Index.
Tyndall Multi Strategy Fund	Managed by JP Morgan Alternative Asset Management Inc. and invests into approximately 40 underlying funds that cover a range of non-traditional investments.
iShares MSCI Emerging Market Minimum Volatility Index Fund	Seeks to track an index composed of emerging market equities that, in the aggregate, have lower volatility characteristics relative to the broader emerging equity markets.

Please note: These are examples only, not recommendations. Some may be directly accessible by wholesale investors only.

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