## Understanding Risk and Return

Generally, risk and return are positively correlated. That is, the higher the risk associated with an investment, the higher the expected return and vice versa (however this is not always the case). This relationship is called the 'Risk versus Return Trade Off' (see Chart 1 below) and is a factor that is taken into consideration in defining your tolerance to risk.

Investments such as shares may offer higher returns over the longer term, but there is a greater inherent risk. In contrast, cash and fixed interest investments are considered to be less risky, but offer lower returns.

Chart 1: Long-term asset class risk-return trade-off

*Risk is measured by standard deviation.
Source: Morningstar Investment Management Australia Limited - October 2017 Capital Market Assumptions (20-year investment timeframe) *Return expectations for Australian Equities incorporate franking credits.

When deciding on an investment, it is important to understand the expected risk and likely returns from the investment and determine how this fits with your personal situation and financial needs.

Investments are expected to provide a return, but this return will come with a certain level of risk. Risk means different things to different people and typically it is referred to as either the uncertainty of the return or the risk of losing your capital.

The relationship between risk and return is demonstrated in the graph below.
As a general rule, the higher the potential return from an investment, the greater is the investment risk and the probability of experiencing capital losses.

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The first step in determining whether an investment is appropriate is to understand the relationship between risk and return, and then to determine the level of risk and return that you are comfortable with. This also requires an understanding of the level of risk you may need to accept to generate the likely returns required to meet your financial goals.

## What is risk?

Risk means different things to different people. Most people think of risk as the chance of losing their capital.
However, in investment terms, risk is often described as the level of unpredictability of returns or the chance that returns will be different (higher or lower) than expected.

There are many kinds of risk. Some of these include:

- Capital risk: losing your invested capital
- Market risk: needing to sell an investment at a time when the price is low
- Inflation risk: the investment's rate of return does not keep pace with inflation
- Interest rate risk: Price sensitivity of a security as a result of a change in interest rates
- Liquidity risk: limitations on access to funds for a period of time
- Legislative risk: changes in laws including tax and superannuation which may make investments less attractive
- Default risk: the failure of an institution in which an investment has been made

Risk can also be described as the chance that you will not achieve the investment returns needed to meet your financial objectives. While some people may be more comfortable with accepting low levels of risk, the potential consequence may be that the returns achieved are insufficient to meet their financial objectives. For example, this may mean that the required level of savings is not available when needed to pay for items, such as retirement or children's education expenses.

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## Example 1

Amy has $\$ 400,000$ to invest. She plans to use the funds in 10 years' time and needs her investment to grow to at least $\$ 800,000$.

If Amy decides to invest in defensive (low risk) assets that are expected to return 5\% per annum after fees, her portfolio is expected to grow to $\$ 651,558$. This is not enough to meet her goals.

Alternatively, Amy could invest in higher risk assets that are expected to return $8 \%$ per annum after fees. In this scenario, Amy's portfolio is expected to grow to $\$ 863,570$ and be sufficient to meet her goals.

This represents a difference of $\$ 212,012$ and the potential to meet her goals.
The higher risk investments are more likely to help Amy achieve her financial goals. However, Amy needs to accept the trade-off of greater unpredictability of returns over the 10 year period and the potential for capital losses or poor performance.

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## Investment Time Horizons

One way of looking at risk is to look at the possibility of negative returns from the investment. The probability of negative returns from an investment will also depend on how long the investment is held. The probability of losses reduces the longer the 'risky' investment is held.

Below is a table of Centrepoint's Strategic Asset Allocation and Risk Profile Characteristics. The table shows that the higher risk portfolios are more likely to result in a negative return in 20 years. For example the Defensive portfolio is expected to produce a negative return 1.9 times over 20 years and the High Growth Plus portfolio is expected to produce a negative return 5.2 times over 20 years. Over the long-term all risk profiles are expected to produce positive returns.

Risk Profile Characteristics

| Pisk Proile | Detensive | Conservative | Balanced | Crowth | High Growth | High Crowth <br> Pus |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Australian Equity | 5 | 9 | 16 | 22 | 28 | 38 |
| Intemational Equity-50\%Hdg | 7 | 13 | 23 | 33 | 41 | 47 |
| Australian Listed Propety | 0 | 0 | 2 | 3 | 3 | 2 |
| Intemational Listed Property | 3 | 3 | 4 | 5 | 6 | 3 |
| Gobal Infrastructure | 0 | 2 | 2 | 3 | 4 | 2 |
| Diversified Atematives | 0 | 6 | 6 | 8 | 6 | 6 |
| Australian Fixed Interest | 28 | 23 | 20 | 12 | 6 | 0 |
| Intemational Fixed Interest | 21 | 17 | 14 | 8 | 3 | 0 |
| Cash | 36 | 27 | 13 | 6 | 3 | 2 |
| Gowth Assets | 15 | 30 | 50 | 70 | 85 | 95 |
| Defensive Assets | 85 | 70 | 50 | 30 | 15 | 5 |
| Expected Long Term Petum | 4.2 | 4.7 | 5.5 | 6.2 | 6.7 | 7.1 |
| IncomePetum | 3.6 | 3.3 | 3.3 | 3.2 | 3.2 | 3.1 |
| Gowth Petum | 0.5 | 1.3 | 2.0 | 2.7 | 3.1 | 3.5 |
| Franking Oredit | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| Standard Deviation | 3.4 | 4.5 | 6.7 | 9.0 | 11.0 | 124 |
| Probability of negative retum over any single year | 9.5 | 128 | 18.6 | 223 | 24.5 | 25.8 |
| Expected number of negative years in 20 years | 1.9 | 26 | 3.7 | 4.5 | 4.9 | 5.2 |

