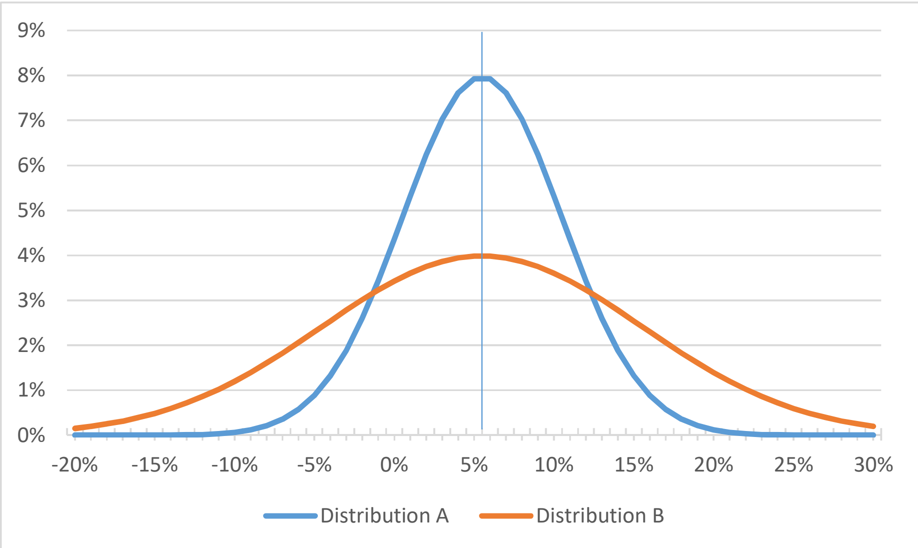
Lower risk boosts returns

I will let you in on a little secret of investing …. a sure fire way of boosting returns over the long-term … take less risk. This might seem a bit counterintuitive, particularly with quantitative easing driving down the returns of safe assets and encouraging investors to reach for yield and take more risk. We would recommend resisting this temptation. The time to take more risk is when risk return trade-offs are favourable (in general terms, when prices are low) rather than simply when risk free returns are poor.

Mathematically, risk or more accurately volatility, lowers long-term returns. At its simplest, this arises because large negative returns require even larger positive returns to recover. For example, to recover from a minus 50% return, you need to get +100%.

While this is most obvious at extreme levels of loss, the effect occurs more generally. For example, consider two strategies both with the same average level of return (say 5% a year) but with varying volatility (one with a 5% standard deviation, the other with 10%). The following figure shows the probability distribution of returns (for simplicity, returns are assumed to be normally distributed).



Now imagine you invest in one of these two strategies for 10 years. What are the characteristics of your average return over 10 years? Clearly the volatility of the average return over the 10 years will be much lower than the volatility in a single year. But if the average annual returns of each of the strategies is the same (5% in this case) surely the average 10 year return will also be equal.

No think again. Utilising Monte Carlo simulation, the lower risk strategy has a higher long term return. In fact, simply reducing risk has boosted long-term returns by 0.3% per annum.

	Average Annual Return	Annual Risk/Volatility	10 Year Risk/Volatility	10 Year Average Return
Strategy A	5%	5%	1.6%	**4.9%**
Strategy B	5%	10%	3.2%	**4.6%**

This example is an illustration of a more general result, that the average compound return is:

$$r \approx \bar{r} - {}^{1}\!/_{2}\,\sigma^2$$

Where

$\bar{r}$ is the average single period return; and

σ is the standard deviation of the single period return.

Beyond the mathematical effect – a lower risk strategy is likely to be maintained or even be able to take more risk in adverse market conditions …. when expected returns are highest. By contrast, take too much risk – and you are more likely to change strategy or de-risk during market crisis. This a recipe for taking high risk when returns are bad (and hence suffering big losses) but then taking less risk during the following upswing (when market conditions are favourable).

When you look at the superannuation funds with the strongest 10+ year track records. The defining feature is much more often the smaller losses they suffered through the GFC, rather than outsized returns in the individual years since.

In conclusion – we would recommend you respond to today's unusual market circumstances by taking less risk not more. Great long term track records are built by avoiding severe losses/mistakes rather than by simply reaching for yield.