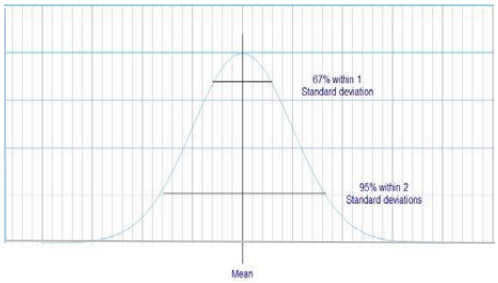
Managing Catastrophe Risk
with Malaczynski Burn

Why do investors underestimate catastrophic risk?

Catastrophic risk is occurring more often and to greater effect

Investment risk is something that can be modelled. It has precedent and this precedent allows us to make predictions about future occurrences – about their magnitude and frequency. Lately, it seems that industry predictions are increasingly inaccurate as catastrophic events happen more often and with greater effect. The reason this is happening is that we are using outmoded assumptions about the way investment markets are operating.

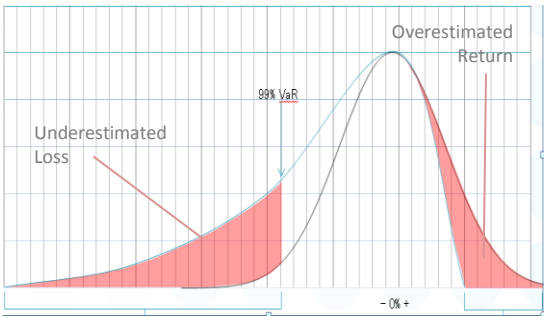
Normal distribution assumptions are often wrong - placing you at greater risk of loss



Most risk models assume that markets deliver returns in the shape of a normal distribution. This means that there is an equal weight of returns either side of the mean return in the shape of a "bell-curve" of normality. Such an assumption allows us to make predictions about future returns and losses with relative simplicity. For example 67% of future returns should lie within 1 standard deviation from the mean over the next period. The problem is that this normal distribution assumption is often wrong.

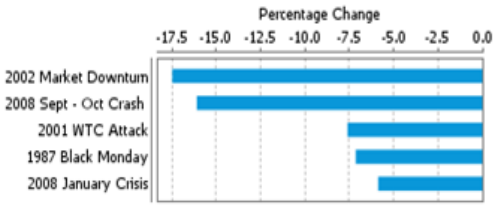
Fat tailed assumptions should be used when predicting losses

Often the shape of the return distribution shows a greater bias to negative returns – a "fat-tail " as well as lower positive returns than expected. When a quantitative model attempts to calculate the likelihood and magnitude of crisis performance, these fat tails lead to an underestimation of crisis losses. Malaczynski Burn can predict losses based on models that assume the existence of fat tails and can change the fatness of those tails to better match certain market conditions



Running scenario tests help us to understand risk in our portfolios and to predict downturns more accurately

Scenario testing helps investors understand the real nature of risk



Using scenario models that allow you to see how your portfolio would have performed in specific crises in the past helps you understand the risks inherent in your investments. Portfolios can be designed to avoid certain types of shocks to the system or avoidance of such losses may be incorporated into investment objectives

Undertaking detailed analysis on drawdowns (capital losses) helps to understand the cause, depth, and recovery and mitigation possibilities. Tracking past losses and looking at how asset relationships changed during each crisis helps us model future crises. Part of risk management might be to concentrate on improving recovery times as much as trying to prevent the loss occurring.

Draw dow n	Length	Recovery	Peak	Valley
-15.73%	9	7	May-08	Feb-09
-7.34%	5	5	Apr-11	Sep-11
-4.43%	2	7	Mar-06	May-06
-3.93%	3	4	Feb-12	May-12
-3.59%	2	3	Apr-10	Jun-10
-3.48%	3	4	Oct-07	Jan-08

The top six drawdowns for a typical balanced portfolio

Book a risk analysis of your investment portfolio

Catastrophe risk management is part of the Malaczynski Burn 'Health Check' or can be undertaken separately as a one-off project. All full consulting clients receive catastrophe analysis alongside statistical analysis on a quarterly basis. Value at Risk analysis can be provided on a normalised basis.

To book a catastrophe risk analysis of your portfolio please contact
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