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Damn Lies and Statistics

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That eminent thinker Homer J Simpson once noted that, "you can prove anything with statistics, 14% of all people know that!" Disraeli placed statistics below "lies and damn lies" in his hierarchy of mendacity whilst Darell Huff, back in the 1950s, wrote the canonical introduction for students, notably entitling it, "How to Lie with Statistics."

Statistics, it is fair to say, need to be treated with care.

In our industry we are drenched in statistics daily, almost 100% of the time, as it were. Economic data, industry stats, interpolated and extrapolated, form the basis of our daily life which ultimately finds its success or failure in our "performance statistics." But even these need to be read with care.

One of the questions any trustee or investor needs to ask is how were my returns achieved? Did I risk my hat in return for just a few percent or are my returns in line with what I should expect from the asset in which I invested and are they within the range predicted.

One of the risk parameters we seek to avoid is the idea often described as "picking up pennies in front of a steamroller." There are many examples of such strategies which, whilst on the face of it, provide investors with a steady stream of small returns but which, sometimes counter-intuitively, are exposed to periodic and catastrophic price declines.

The subprime crisis was an example, those with long memories might remember the LTCM debacle of the late 1990s. More recently the ultra-long dated bond market suffered unprecedented declines when Liz Truss and Kwarsi Kwarteng inadvertently exposed the fragility of the "liability driven investment" or LDI strategies adopted by the major Life companies for pensions.

In the jargon this is known as "negative skew", and it is not a feature of investments that most investors should find desirable. Option traders disentangle this factor and trade it, but the vast majority of retail option trades lose money with negative skew typically the culprit.

Despite the risks and limitations of statistical analyses, used properly they can shed light and provide insights that are otherwise hidden in the torrent of daily data that floods our screens.

We know that investment, any investment, entails risk. But before we invest, we want some idea of the nature of the risk we are undertaking. A venture capitalist making a commitment to a "blue-sky" enterprise will anticipate very high returns leavened by the knowledge that such blue-sky commitments have a non-trivial risk of returning zero. A bond investor expects a low return but undertakes serious credit analysis to gauge the capacity of the borrower to return the funds on the due date.

If we take a statistical lens to the recent history of the world's markets some interesting and disturbing trends emerge.

The first issue that jumps out from the data is that UK markets exhibit much greater "negative skew" than other competing major markets.

In recent years, UK stock markets have offered investors regular small positive returns, offset by large periodic losses. You might say that the financial crisis and Ukraine war affected all markets but whilst that is true, UK markets have tended to suffer deeper falls and have longer recovery times than others. This must give us pause for thought.

By contrast, risks in the US have been very balanced with periodic returns evenly spaced around the mean. In other words, return outliers are equally likely to be positive or negative whereas in the UK return outliers tend to be negative.

In a further contrast, returns associated with Japanese markets have exhibited “positive skew” meaning that small positive regular returns have been supplemented by occasional large “positive” outliers (the right-tail of the distribution).

None of this analysis takes account of valuations or indeed, of imminent changes to politics and policy: leadership in the US and higher interest rates in Japan.

Nonetheless, as a statistical model and description of the behaviour of competing markets it provides us with a valuable pointer to current trends governing international asset allocation and a tool with which to fine-tune the risks and opportunities in our investor portfolios.