OAK INVESTMENT MANAGEMENT GROUP

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Financial Correlations

Perceptions of financial correlation are arrived at informally and formally. Informally experience, insight and even intuition have a role forming an opinion how variables are connected. Formally testing hypotheses against scenarios on a quantitative basis (such as regression analysis), can yield huge insights as to how correlations are formed. Fundamentally, however, it must be remembered that either system is and must always be backward looking.

Although the value of discerning correlations is to tell us what might happen in the future, correlation tests can only be performed on the past. Even scientific sounding 'probability trees', or, more racy sounding 'Monte Carlo' simulations can only map out potential outcomes gleaned from the past. There is not – nor will there ever be – a crystal ball to the future. There are two principle reasons for this; the first is that more often than not any simulation is more multi-variable than what one might think and that each of these variables may (or may not) have variable connectivity with each other in a completely unpredictable way to determine the output. The second principal reason is that correlations change from time to time and are not empirically 100% deterministically provable before an incident happens. Indeed, dramatic or extreme events can bring into action extreme counter-veiling measures not incorporated into any model. Think for example, how completely government intervention in the world economy into QE was unthinkable before it happened; or indeed flatlining interest rates for over ten years.

Apart from the historical risk factor endogenous in correlations – there is also a major exogeneous risk factor in correlations. False correlations are alarmingly prevalent in the financial world because causal sequencing can be intentionally or unintentionally inverted. Intentionally mixing cause with effect can flatter an investment thesis. Unintentionally mixing cause and effect can produce a variable that masquerades as *alpha* only to disappear as the actual investment is deployed. Raw computing power available to anyone, the internet connecting everyone and the use of mass data generally is only making matters worse for both intentional and unintentional causal sequencing in financial correlations.

Scientific sounding and incontrovertible insisting investment theses based on correlations needs to be subject to subjective analysis, therefore, to test the historical nature of the data (new variables and changing connectivity between variables) and the conclusions that the data presents (inverting casual sequences). As a result, financial correlations need to be treated with extreme care. Financial correlations and concomitant regression analysis can be very powerful and very useful as a generalisation but they are not a silver bullet in defining investment strategy, deployment or withdrawal of capital from the market.

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