# PREDICTION, PROBABILITY AND FORECASTS

*By Daryl Guppy*

Our local, and rather excitable newspapers, loudly proclaimed that this year was going to be a big typhoon season. It's a no brainer given that every year we have typhoons. Typhoons are generated by high sea temperatures and the unusually hot weather for this time of the year sets up the conditions for more typhoons. But is this a prediction or a forecast?

I am regularly taken to task on my CNBC blog for making incorrect calls on analysis. This is despite the fact that over the past 5 years we have an 88% success rate where our calls have reached or exceeded their targets.

The core of our analysis lies the idea of probability which is neither a forecast nor a prediction.

Often people like to compare weather predictions with market predictions. Polish researchers Tyszla and Zielonka in 2002 asked financial analysts and weather forecasters to predict future stock levels and temperature and then measured which group was more accurate. Here's a summary of the experiment and their conclusions:

- The analysts were asked to predict the closing price of the Warsaw Stock Exchange Index at the end of 2000 (about 1 ½ months in the future). The weather people were asked to forecast the average temperature in Warsaw for April 2001 (question posed in mid March).
- Each group had to choose from three potential ranges of outcomes set to approximate a 33% likelihood based on historical precedent. Moreover, they had to assign a probability of each outcome, with their answers totalling 100%.
- Lastly, they were asked to assign a confidence level to their predictions.
- The weather forecasters trounced the stock analysts, with 66% of their predictions proving accurate versus just 33% for the investment pros.

Let's stop here because this very basis of the experiment is incorrect. Stock market prices are not like the weather for 4 reasons.

1) The weather moves in cycles influenced by the moon and the season. These cycles do not exist in the market. (sorry Elliot wave and Gann readers)
2) The weather is not influenced by physical activity. We cannot make tomorrow's temperature hotter or colder by any action that we, or a group, take. Stock prices are influenced by psychological behaviour. Our action does influence the price behaviour.
3) There are well recorded cases of market manipulation. There are no documented cases of daily temperature manipulation.
4) Daily temperatures move in well defined limits. The weather on April 1 2017 has a high probability of being pretty much the same as the weather on April 1 2016. The same cannot be said for stock prices.

For weather forecasters the world is "Partially predictable". Not so for those who work in the market. Weather forecasters know that the most reliable prediction of tomorrow's weather is to assume that it is the same as today. That's the anchor to their process: statistical reversion to a mean, informed with a heavy dose of humility about stepping away from that paradigm.