Weekly Market Flash

Predictions Were 2016's Biggest Loser

December 2, 2016

2016 has been a rough year for the predictive sciences. The two marquee debacles, of course, were the Brexit vote in June and then the U.S. presidential election in November. On both occasions, the polls said one thing – with varying but largely robust degrees of confidence – while the outcomes said another. "The polls failed us" went the refrain of a chorus of observers in the aftermath of June 23 and November 8.

But when we say that "predictions were the year's biggest loser" do we necessarily mean the polls? Or, rather, was the real culprit the folly of those who use predictive data to make their own prognostications about event outcomes, and the likely ensuing market reactions? If you're a long-time reader of our commentary, you probably know where we're going with this. Event-driven investors were tripped up by predictive folly in 2016. If we were to make our own prediction it would be this: they will be tempted to trip up again in the year ahead. We hope the events of 2016 will be an incentive for fewer to bite at the tempting apple of predictions and odds.

The Law of Small Numbers

Predictions necessarily derive from sample sets – a (if done right) random subset of a larger population or process. Polls are one example of a sample set – a slice of the likely voting predilections of a larger population. Coin tosses are another sample set, with each toss representing a sliver of a larger process that generates a defined outcome of either heads or tails. Students of the science of probability and statistics learn certain rules about the handling of sample sets; unfortunately, those rules tend to get lost in the noise of media coverage of events with probabilistic outcomes. Look no further than those two headline events of Brexit and Trump, and the Law of Small Numbers.

Media outlets tend to present poll samplings as a probability-weighted outcome. When an article says that the likelihood of Britons voting to remain in the EU is about 90 percent, or that Hillary Clinton's chances of winning the White House are 85 percent, those sound like pretty good odds, right? So when Britain decides to bail on Europe and Donald Trump scoops up more than 270 votes in the Electoral College – well, the polls failed, didn't they?

Not so fast. Let's revisit that notion of sample sets. A fair toss of a coin has a 50 percent chance of coming up heads or tails. If you toss a coin ten times you would expect to see five heads and five tails. But if you've ever tried this out, you know that any discrete sequence of ten coin tosses may show something wildly different: seven heads, or ten tails, or any other combination. If you tossed that coin 100,000 times you would almost certainly record a number of heads (or tails) vanishingly close to 50.0 percent. That's called the Law of Large Numbers.

But within that sequence of 100,000 tosses will be smaller handfuls of ten heads in a row, or nine tails and one head, or something else. That's called the Law of Small Numbers, which says that the connection between underlying probabilities and observed results is much weaker when the sample size is small.

Why should you care? Because the outcome of a single event, like a referendum or a presidential election, is roughly analogous to tossing a coin a small number of times. You're more likely than not to see the expected outcome. But there is a meaningful probability that you will see a different outcome. If you could simulate the presidential election 100,000 times (heaven forbid), you would probably see a Clinton victory closely aligned with what the polling data predicted. But the real world only offered up one simulation, and that was the actual outcome on November 8.

If Not One, then Zero

The Law of Small Numbers is what drives us to consistently advise our clients against playing the odds with individual events. Think about what happened to bond yields, the U.S. dollar and industrial commodities immediately after the election: they all spiked. Granted, an inflation trade trend of sorts was already underway,



but the outcome of the election amplified it. Had the election gone the other way, it is unlikely that we would have seen those hockey-stick charts for copper and the 10-year yield that we <u>featured in our commentary</u> a couple weeks ago.

In other words, these individual events have discrete, binary outcomes. Yes / no, one / zero, win / lose. And not just for referenda or elections. "Production freeze / no production freeze" was the event headlining this week, as a tortuously arrived-at thumbs-up for an OPEC deal sent crude prices soaring by nine percent on Wednesday (what would they have done if the deal had fallen through?). For just about every such macro event there are highly sophisticated futures markets predicting the odds. And there are plenty of willing investors lining up to bet on the action, misunderstanding the predictive science to believe that the likelihood of their being on the wrong side of the trade is vanishingly low. The odds, they believe, are ever in their favor.

If nothing else, we hope that the colossal predictive fails of 2016 will have the positive effect of dissuading more investors from parting with their money in this fashion.

Events Aplenty in 2017

We don't even have to look ahead to 2017; just within the next seven days we will have a critically important referendum (on Sunday) in Italy, the outcome of which is likely to have an outsize directional impact on Italian (and regional Eurozone) financial stocks, and then the FOMC statement next Wednesday where a rate hike is expected. Next year there are elections in France and Germany. Not to mention, of course, decisions about U.S. economic policy that will either validate or not (we think not) the "reflation-infrastructure trade" so breathlessly covered by the financial media over the past three weeks.

As a matter of course, we necessarily pay attention to all these events as they get folded into the overall picture of the global economy and capital markets. But rather than taking predictive bets on any given outcome, we ask how that outcome impacts the larger, constant concerns of organic growth, profitability and asset quality that in the long run are the most important determinants of stock price performance. Truth be told, our assessment of trends in global supply and demand, based on consumer expenditures, business investment and the like, has not changed much over the course of the last several months.

We will have more to say about our views when we publish our annual market outlook in January. For now, though, we will stay diversified and resist the temptation to push the envelope too far in any one direction in response to - or in expectation of - individual event outcomes.

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