

Editorial

The Challenges in Forecasting: Illustration of US Presidential Election Preferences **Gurumurthy Kalyanaram**

In Economics and Public Policy, forecasting is an important activity and a tool for scholars and practitioners.

Central banks, governments, institutions, firms, scholars, and practitioners have to routinely forecast Gross Domestic Product, employment/unemployment, number of jobs created or lost, demand for products, money supply, interest rates, currency rates and more.

There are numerous sophisticated forecasting methods developed over time, including time-series analyses, decomposition analyses and filtering approaches. But, time and again, forecasts are erroneous, and quite often, materially so.

What are the reasons? Simple; the errors come from many sources but consumers and decision-makers rely on point estimates. We have come to believe the world is deterministic when it is really stochastic. But human beings change their preferences, societies and economies do not necessarily behave as we imagine and events take place that are beyond our control. So, inherent in any forecast is error because things change. But when the eco-system for such potential changes is ripe, we should be even more careful. Errors also creep in from errors in data collection.

Therefore, we should not rely on point estimates but on a range. That is why good forecasts always provide standard error or margin of error. For instance, let's say we estimate the demand for a service to be at 43 units and the standard error to be 3 units.

That simply means that we can assume with about 66 percent confidence that the demand is likely to be somewhere between 40 and 46. What if we want over 90 percent confidence in our estimate of demand? In that case, we can only state that the demand is likely to be somewhere between 37 units and 49 units – a stunning spread of 12 units. That's the point. But as decision makers and policy makers, we time and again forget this simple fact and make misjudgments.

Here, using the recent US Presidential elections as the subject matter for forecasting preferences and choices, I have illustrated the challenges of forecasting. Please read on.

On Tuesday, November 8th, Donald Trump stunned all of us -- well, at least a lot of us -- he was elected as the President of United States. The drama of the evening is captured wonderfully in these 13 headlines from New York Times.
https://twitter.com/Kalyanaram_G/status/799019074231685135

It was believed that Trump's odds were very good even as early as in January-February (when Trump was not even the Republican Party nominee, and was only one among the 16-17 Republican Party candidates) as reminded by a student. See here:
https://twitter.com/Kalyanaram_G/status/796385149399273472

Clinton simply got caught in the cross-current of adverse history: only twice has the party that served in White House for 8 years or more been able to elect its candidate to

Presidency (Andrew Jackson's VP Martin van Buren's election, and Ronald Reagan's VP George Bush.) So, Clinton was facing a grim empirical/historical reality. America is a society that yearns for change, innovation, and futuristic vision -- always, in the 19th century and the 20th and now the 21st. Beneath the quiet, the citizens of United States of America are always restive.

Here is a reading of my analysis and forecasts. I am producing my writings as they were presented.

November 8th

As Americans get ready to vote tomorrow -- Tuesday, November 8th - - though almost 40 percent of the Americans have already voted in "early voting provision," it appears that Hillary Clinton has about 65-70 percent odds of winning the Presidency. But we must remind ourselves that 30-35 percent events happen fairly often -- so, Trump can win too. Here are data-driven observations.

There is clear consensus that Clinton is leading by about 3.5 points nationally -- she got good news today, Monday, when about 6 different high-quality polls placed her national lead at about 4 percent.

There is less clarity about the number of electors that Clinton has locked in.

However, based on that data, it appears that Clinton may have won about 268 electors, including those from Michigan and Pennsylvania.

Trump has earned the support, it

appears, of 216 electors, including those from Ohio and Iowa and from the second district in Maine.

About 48 electoral votes appear to be on knife's edge: Florida (29), North Carolina (15), and New Hampshire (4).

The data on Nevada (6 electoral votes) is confounding. While polls show that Trump is leading, the democrats have voted in larger numbers (by 6 percent) than Republicans in the early voting provision.

So, Clinton should be able to compose the requisite 270 electoral votes and some.

But here are several reasons why Trump can remain hopeful.

The average error between the final polls and the actual results has been 2 percent (measured since 1968 presidential elections). The error in 2012 was 3 points -- Obama's performance was understated and in the 2014 Senatorial elections, the error again was in the range of 3 points in favor of the Republicans. Of course, we do not know the direction of the error. It could potentially be understating Clinton's votes. Generally, errors are correlated across states.

African-American votes are down all over the country, including in Florida and North Carolina.

Hispanic vote is up significantly, but large numbers of Clinton Hispanic votes are in Texas and Arizona, which Clinton will not win.

Trump is performing unusually well in Iowa and Ohio, so he has hope in mid-west. He might be able to eke out a victory in Michigan (18 electoral votes), where there is a large white working class and significant African-American vote. And the polls from MI have generally not been so reliable --

they are an unusually large number of undecided voters (15 percent or so.)

In Nevada, democrats are up in early voting by about 6 percent but that is consistent with party affiliation -- and no more.

In Florida, the early voting numbers for democrats are not as encouraging as in 2012.

In Colorado, Republicans are slightly ahead in early voting.

In New Mexico, polls show that Clinton is up by only 3 points. Very good polls. Something odd going on because NM has a large number of Hispanic voters. Donald Trump, even in his loss, would have certainly earned the support of more electors than Mitt Romney in 2012, John McCain in 2008, and Bob Dole in 1996. That is saying something.

As a betting proposition, Trump could fetch a lot of returns for relatively small risk but Clinton is a safer and cautious bet. If Clinton wins, she owes a lot to Barack Obama who has arguably been one of the best Presidents.

November 2nd

The US Presidential elections will conclude on November 8th (almost 22 million Americans have already voted in 'early voting' provision) with a total of over 120 million Americans voting. On November 8th night, we will know the next President: Hillary Clinton or Donald Trump.

What is the current status? Based on all the data, Hillary Clinton is likely to win the Presidency with about 280-300 electoral votes (it takes 270 electors.) Trump is likely to end up with 260-240 electors. Most probable scenario is that Trump will end with about 259-260 electoral votes, 10 short of the magical number.

There are two ways to look at the data: probabilistic or deterministic assessment. Five-thirty-eight (538) proves solid probabilistic assessment, and RealClearPolitics (RCP) deterministic (plain averages.) See: http://projects.fivethirtyeight.com/2016-election-forecast/?ex_cid=rrpromo <http://www.realclearpolitics.com/>

In either outlook, Trump is assigned about 230-244 electoral votes. There are some differences. But that's a second-order detail. In either outlook, Clinton is leading nationally by 2.5-4 points.

Here is the key. In Arizona, Florida and North Carolina, Trump is just trailing Clinton -- by less than 1 point (in 538, Arizona is tipped to Trump ever so slightly; less than 1 point separates them in Florida and North Carolina) but the trend-lines are robustly in favor of Trump. So, if Trump pulls within 2 points of Clinton nationally, he will tip all these states in his favor. This is a fairly likely scenario.

Having said all this, there appears to be no other state that can fetch Trump additional 10-11 needed to cross 270 because in almost all of them Clinton leads by more than 2 points -- in most of them by 4-5-6 points. So, unless Trump draws even or nudges ahead in the popular vote, he may not be able to draw the additional 10-11 electoral votes.

All this may change in the next one week, and probably will.

The volatility in this election (even measured by Standard Deviation of the polls) is the highest that it has been in the last 30 years. That should give hope to Trump, and cause concern to Clinton. See: <http://fivethirtyeight.com/features/election-update-the-polls-disagree-and-thats-ok/>

Finally, the sliver of undecideds appear to be leaning Republican. See: <http://www.wsj.com/articles/trump-stands-to-benefit-from-high-number-of-republican-leaning-undecided-voters-1477832402>

September 27th

Clinton did clearly win the debate: some may consider it a victory on points, others a knock out. In any case, she did win. In a CNN instant poll, Clinton crushed Trump (65-27) and in another poll (Public Polling Policy with Democratic house-effect), Clinton won (51-40).

But Trump was not bad. He did not commit any obvious gaffes. He was more authentic, though more disheveled (in terms of preparation and articulation) -- at least, he appeared more authentic, may be simply because he was disheveled.

I talked to some of my friends and colleagues. All educated elite -- a constituency, for most part, averse to Trump. But everyone felt that Trump

was fine enough. More importantly, Trump is more likely to be appealing to white electorate who still constitute over 65 percent of the voting, and even Obama got only 32 percent of that vote. Most reasonable empiricists tell us that the impact of non-white electorate is a bit overstated. Whites are still bread and butter. Clinton has to pull in at least 35 to 38 percent of the White votes, because the non-whites are not enthused. And that's a tough task.

Here is the point. After two more debates, he will appear to be an equal presence (to Clinton.)

We are super-imposing Trump's perceived and real crassness and callousness on Trump's performance. That's natural.

Here is the summary: Clinton won, Trump did not. How big, we don't know. But perceptible enough. So, now the polls should move in favor of Clinton in the next 4-5-6-7 days. Currently, Clinton is leading by about 2 points; she should lead by about 6

points. If the polls don't move enough, Clinton is finished, which means that the electorate has closed its mind on her -- and they will move to Trump in the last week or 10 days as they did in 1980 in favor of Reagan.

Personally, I am conflicted in terms of prediction. I am tempted to say that Clinton will pull it off. But the Americans want change, not continuity. They are looking to rupture, not continue. Trump is becoming plausible. Analogous to AAP and Kejriwal phenomenon.

So, as a betting man, as of today I would bet on Trump.

In a narrow interest from India's perspective, Trump will be more harrowing for Pakistan and Clinton is instinctively more sympathetic to Pakistan's posture. But such parochial approach -- even from India's perspective -- may have short term benefits, but in the longer term, is likely to be counter-productive.

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