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MAY 2011

An alternative Government?

THE IMPACT OF VOTING REFORM ON UK GENERAL ELECTIONS

On May 5th 2011, the UK held a referendum on whether to replace its current First-Past-The-Post voting system with an Alternative Vote system in which voters rank candidates in order of preference. In this bulletin, we use economic techniques to analyse how AV could have changed the outcome of the 2010 UK general election, had it been in place at the time.

In May 2011, the UK electorate faced its first referendum since 1975, on the contentious issue of electoral reform. Voters opted to stay put and retain the existing First-Past-The-Post (FPTP) system rather than replace it with an Alternative Vote (AV) system.

One of the recurring themes in the referendum campaign was the question of what would have happened in the 2010 UK general election if the AV system, where voters rank candidates in order of preference, had been in place instead of



FPTP. Conventional wisdom suggests that both the Liberal Democrats and Labour would have gained seats, but that the impact on post-election coalition building would have been minimal – the Conservatives would still have won the most seats, and would have remained the leading contenders to head any coalition government.

Frontier has undertaken an analysis of voting in the 2010 election to test this hypothesis. By applying the same techniques that economists use to analyse consumer behaviour, we have simulated how a switch to AV might have affected the outcome of the election. The results of this simulation suggest that the conventional wisdom on this issue might be inaccurate.

SECOND GUESSING

In order to simulate the impact of AV, we needed to understand how voters would have used their second preferences. Economists frequently study this sort of empirical question, since market behaviour also often depends on second preferences. The ability of a firm to raise prices, for example, depends on whether consumers would be willing to switch to the next best product. It is often said that consumers who switch are “voting with their feet”.

By treating political parties as “products” and voters as “consumers”, we have been able to apply the same statistical economic models that we use to analyse competition and consumer choice. Our model was based on the British Election Study, which collected detailed information on over 13,000 UK voters during the 2010 general election. It covered everything from voters’ views on the NHS to their opinions on how well the party leaders performed in TV debates. It also recorded data on voters’ location, age, occupation and party affiliation.

Using an econometric tool known as a conditional logit model, we sifted through this information to identify those factors that most influence voting behaviour. We then used these factors to predict second preferences, based on both voters’ socio-demographic characteristics and the characteristics of individual election candidates. Based on this information, the model was able to predict correctly how any individual would cast his or her vote 77% of the time. The remaining 23% of votes would have been influenced by characteristics that the data cannot measure.

VIRTUAL VOTERS

A statistical model of voting behaviour at the national level can provide some insights, but political parties’ success or failure depends on how those votes play out in individual local constituencies. Understanding what voters would do with their second preferences matters under AV, but so does understanding *where* they would do it.

Again, economic modelling makes this possible. By taking account of how voting behaviour relates to voter demographics, as well as other local factors such as the party affiliation of the incumbent MP, we were able to adapt our model to simulate each local constituency election individually. Using a technique known

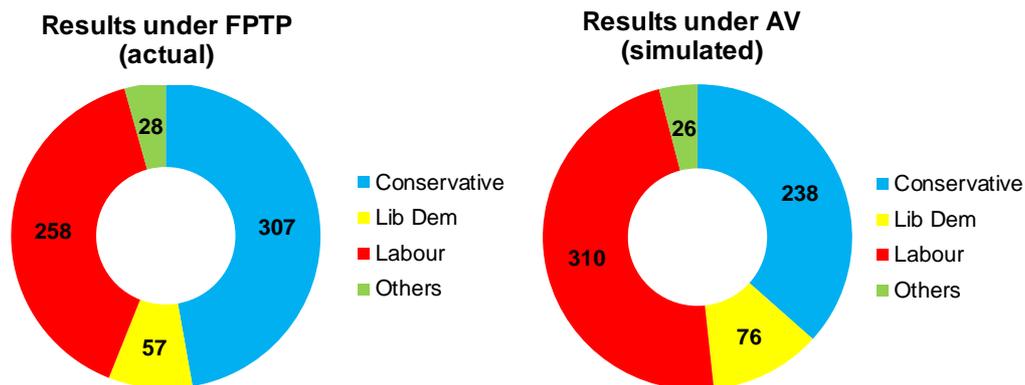
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as Monte-Carlo simulation, we replicated a sample of the 30 million people who went to the polls in May 2010. These virtual voters were designed to match the demographic characteristics of each constituency. Their preferences were then calibrated to match the characteristics of the political parties and candidates standing in their constituency.

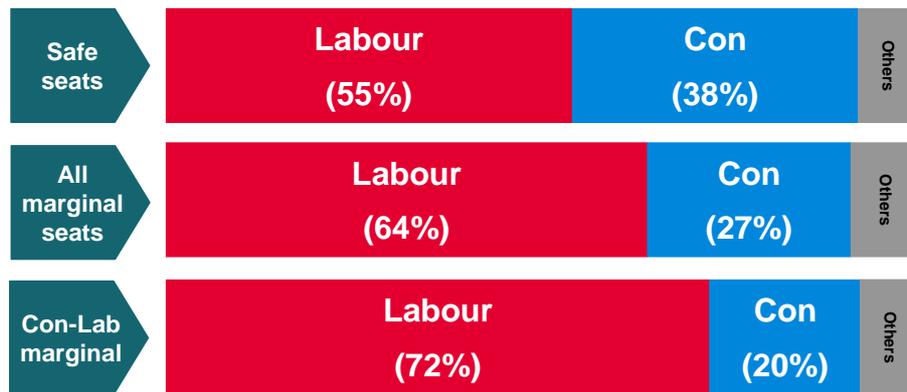
SWINGOMETER

Once all the numbers were crunched, our analysis suggested that the Conservatives would have been the clear losers under an AV system, and Labour the biggest winners. In fact, modelling suggests that the outcome of the 2010 general election might have been reversed under AV: Labour would have been the largest party, but without an overall majority; while the Conservatives would have been able to form a government only in a coalition involving several smaller parties.

The Liberal Democrats would have seen their total number of seats rise by around one-third and, while they would have remained the post-election kingmaker, the balance of power would have shifted towards a ‘Lib-Lab’ coalition as the only sure way to create a stable majority government.



These results show a much bigger swing to Labour than most previous studies of how the 2010 election would have unfolded under AV. So why does our model produce such different results? The answer lies in Liberal Democrat second preferences, particularly with regard to Conservative-Labour marginal seats. We find that using national or regional average second preferences to reallocate votes under AV, as previous studies have done, is not fully accurate. Our modelling suggests that, at the constituency level, Liberal Democrat second preferences are “bi-modal”. In practice this means that they split in different ways, depending on whether the constituency is a marginal seat where the Liberal Democrats can affect the outcome or a safe seat where second preferences don’t get counted (see overleaf).



Distribution of Liberal Democrat second preferences following elimination

Most importantly, it is in Conservative-Labour marginal seats where Liberal Democrat votes swing most strongly to Labour, and in large enough numbers to change the outcome. These are typically seats in the North of England and Midlands, such as Bury, Chester, Dudley, Warrington and Wolverhampton. In contrast, Liberal Democrat second preferences swing strongly to Conservative in places like Banbury, Bromley, Chelsea and Guildford – where the Conservatives have generally either already won on first preferences alone, or where the Liberal Democrat candidate is never eliminated.

CONCLUSIONS

By analysing voting behaviour and political parties in the same way as economists analyse consumer behaviour and products, we can estimate how the results of the 2010 UK general election might have differed under an Alternative Vote system. Through using economic modelling techniques to drill down into local variations, we find evidence that challenges the conventional wisdom about how AV might have affected the outcome.

As with all static models of consumer behaviour, the next interesting question is how a new voting system would affect the “supply side” response – in this case, the election strategies of the established political parties and any new parties that would have entered the political marketplace. And, like all good economic models, we may never find out for sure.

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