

Equalising constituency sizes is likely to reduce the electoral bias in favour of Labour but only minimally so. Much of the bias is likely to remain because it is due to other factors such as turnout and vote distribution.

Dec 2 2011

One reason why the government wants to equalise electoral constituency sizes is to correct for a perceived electoral bias in favour of Labour and against the Conservatives. [Claus Beisbart](#) and [Luc Bovens](#) investigate to what extent unequal constituency sizes were responsible for the electoral bias in the 2010 election.



What is the pro-Labour electoral bias that the Conservatives complain about? Take the 2010 election. The Conservatives received 7.1% more votes and secured 306 seats—which is 7.4% more seats—than Labour UK-wide. Now let us do a thought experiment. Imagine a counterfactual election which is just like the 2010 election except for the following feature. In this election Labour received 7.1% more votes than the Conservatives UK-wide due to the fact that, *within each constituency*, Labour received 7.1% more votes and the Conservatives received 7.1% less votes than they actually did. We now calculate how many seats Labour and the Conservatives would have secured in this counterfactual election. As it turns out, Labour would have secured 354 seats, which is not 7.4% more seats, but 23.2% more seats—i.e. much more than 7.4%—than the Conservatives.



We quantify this pro-Labour bias by taking the difference between the number of seats Labour would have secured in the counterfactual election and the number of seats the Conservatives actually secured. This difference is $354 - 306 = 48$ seats.

So equally strong wins in terms of votes UK-wide by the Conservatives in the actual election and by Labour in the counterfactual election yield substantially more seats for Labour in the counterfactual election than for the Conservatives in the actual election. This is the pro-Labour electoral bias, exemplified in the 2010 election. And this is what the Conservatives find objectionable.

Why is there this electoral bias? First, Labour tends to win in smaller constituencies. Second, Labour tends to win in constituencies with smaller voter turnout. Any electoral bias that is not explained by these two factors is due to various features of the distribution of votes between Labour, the Conservatives and other parties, which we will lump together in a residual category. Looking at the first two factors:

- *Labour tends to win in smaller constituencies.* The average size of Labour constituencies is 68,487 whereas the average size of Conservative constituencies is 72,418. This is partly due to fact that Labour performed much stronger than the Conservatives in Wales and Scotland where constituencies tend to be smaller than in England. (The average size of constituencies in Wales is 56,628 and in Scotland 65,475, whereas the average size in England is 71,858.) But even within England, the average size of Labour constituencies is 70,252 as compared to the average size of Conservative constituencies of 72,816.
- *Labour tends to win in constituencies with smaller voter turnout.* The average turnout in Labour constituencies was 61.1% whereas the average turnout in Conservative constituencies was 68.3%.

There is little we can do about electoral bias due to differences in voter turnout and the distribution of votes. And even if we could, it is not clear that we would want to do something about it.

Electoral bias on grounds of unequal constituency sizes is a different story. Suppose that Labour secures 2 seats for winning two constituencies with 35,000 people and the Conservatives secure 1 seat for winning a single constituency with 70,000 people, always with narrow wins and say average voter turnouts. Then the Conservatives do seem to have some ground for complaint and there does seem to be a reason for a correction based on fairness considerations.

However, unequal constituency sizes and voting patterns are never this simple. Equalising constituency sizes is costly in many respects. Before embarking on this route, we may want to have some kind of estimate

of how much of a correction it would bring to the electoral bias, since unequal constituency sizes is only one factor that contributes to the electoral bias.

We could take a proposal that is on the table, fill in the details and calculate electoral outcomes and bias starting from the 2010 elections. However, there are many problems in carrying out this exercise. First, there are many ways of redrawing the borders yielding very different results. Second, if the plan is to enlarge constituency A with, say, 20% of constituency B, then in order to calculate what the election results would have been like in the enlarged constituency A, we need to make the unrealistic assumption that voting patterns are homogeneous throughout constituency B. This assumption is required unless we know what part of B will go to A and what the distribution of votes is within this part—and this is information that is typically not available. Third, any realistic proposal makes only partial corrections for unequal constituency sizes and so we would only learn about the impact of *partially* removing the factor of unequal constituency size. And finally, we should not forget that voters would of course have displayed different voting behaviour if they had voted in constituencies that are differently delineated. For all these reasons we decided to follow a different route.

We have tried to estimate the relative impact of equalising constituency sizes. Imagine three shadow nations that are just like the UK in that they have the same constituencies and that political parties receive precisely the same *proportions* of votes within each constituency as they actually did in the 2010 elections. However, we implement the following changes.

1. Shadow nation 1 is just like the UK, except that each constituency has mean UK-wide constituency size of the 2010 elections;
2. Shadow nation 2 is just like the UK, except that each constituency has mean UK-wide voter turnout of the 2010 elections;
3. Shadow nation 3 is just like the UK, except that each constituency has mean constituency size and has mean voter turnout.

We listed the electoral bias for each of these shadow nations:

	Voter Turn Out within Constituencies	Constituency Sizes	Electoral Bias	
UK	Actual voter turn out	Actual constituency sizes	48	100%
Shadow Nation 1	Actual voter turnout	Mean constituency sizes	38	79 %
Shadow Nation 2	Mean voter turn out	Actual constituency sizes	25	52%
Shadow Nation 3	Mean voter turn out	Mean constituency sizes	12	25%

In a shadow nation in which we neutralise the impact of unequal constituency sizes completely, we eliminate 21% of the electoral bias on voting patterns of the 2010 election. Compare this to the fact that in a shadow nation in which we neutralise the impact of unequal voter turnout, we eliminate 48% of the electoral bias. And in a shadow nation with both impacts neutralised we eliminate 75 % of the electoral bias—25% still remains due to the residual effect of the distribution of votes.

Is the effect of equalising constituency sizes worth the risk of gerrymandering and breaking up natural, historical and social boundaries? A shadow nation in which the sizes of the constituencies are equalised retains 79% of the original bias. Furthermore, even the 21% reduction of the electoral bias comes about only in a shadow nation that *fully* neutralised unequal constituency sizes. Any adjustment in the constituency sizes will always remain partial—we will not reach full equality. Hence, the expected reduction may even fall short of this projected 21%.

Extrapolating from our exercise with the 2010 election, we project that equalising constituency sizes is likely to reduce the electoral bias somewhat. However, it is by no means a magic bullet. If other explanatory factors remain constant in future elections, then most of the pro-Labour electoral bias will remain even after substantial adjustments in constituency sizes.

(For similar conclusions see also Borisyuk, Johnston, Rallings and Thrasher (*Parliamentary Affairs*, 63, 2010, 4–21) and Thrasher, Borisyuk, Rallings and Johnston (*Journal of Elections, Public Opinion & Parties*, 21, 2011, 279–94.)

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