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When is a Gerrymander not a Gerrymander: Who Benefits and Who Loses from the Changed Rules for Defining Parliamentary Constituencies?

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Abstract
Members of the British Labour party have, not for the first time, criticised the Boundary Commissions' proposals for new constituency boundaries as gerrymandering. This represents a mis-use of the term: the Commissions have produced recommended constituencies in the context of new rules for such redistributions that give precedence to equality of electorates across all seats and the boundaries of those constituencies have been defined without any reference to the likely electoral consequences. The Conservatives, who were responsible for the change in the rules to emphasise electoral equality, wanted to remove a decades-long Labour advantage in the translation of votes into seats because of variations in constituency size and the Commissions' implementation of those rules has achieved that. A Labour advantage has been removed but not replaced by a Conservative advantage: in terms of electoral equality between the two the playing-field has been levelled. Labour's claim to have been disadvantaged by decisions on the electoral register is also examined; the disadvantage is probably only small.

Keywords: constituency boundaries, Boundary Commissions, equal electorates, gerrymandering

It has become a commonplace for British Labour party politicians to claim that changes to the rules for redrawing the boundaries of Parliamentary constituencies are a gerrymander.[1] In doing so, they misuse/abuse a technical term with deep historical roots. The term gerrymander has a range of definitions according to which dictionary is consulted, for example:

> *To divide (a geographic area) into voting districts in a way that gives one party an unfair advantage in elections* (The Free Dictionary);[2]
> *… a practice intended to establish a political advantage for a particular party or group by manipulating district boundaries* (Wikipedia);[3]
> *manipulate the boundaries of (an electoral constituency) so as to favour one party or class* (Google);[4]
> *… when someone in authority changes the borders of an area in order to increase the number of people within that area who will vote for a particular party or person* Cambridge Dictionary);[5] and
> *to arrange or change the boundaries of (one or more electoral constituencies) so as to favour one political party* (Chambers).[6]

Common to all of these definitions, and many others besides, is the manipulation of boundaries – following the example of the original gerrymander by Governor Elbridge Gerry of Massachusetts who, according to the *Boston Gazette*, created a salamander-shaped district in 1812 whose composition favoured his Democratic-Republican Party. Gerrymandered constituencies/districts usually have non-compact shapes – and may comprise two or more spatially discontinuous blocks of territory – as widely illustrated, but that need not be the case; nor is it necessarily the case that a non-compact shape inevitably indicates a gerrymander.[7]

In September 2016, the Boundary Commissions for England and Wales published their initial recommendations for new Parliamentary constituencies, produced according to the revised rules for such exercises set out in the *Parliamentary Voting System and Constituencies Act, 2011*. They were immediately condemned by a number of Labour MPs, including the party leader, as gerrymandering;[8] but perhaps the most egregious use of the term was an article in the *Guardian* by Tristram Hunt (MP for Stoke-on-Trent Central and a distinguished historian) entitled 'This boundary

gerrymandering is grotesque'.[9] But there was no gerrymander. The politically-neutral Boundary Commissions independently apply a rigid set of rules laid down by Parliament, whose over-riding goal is to ensure that there is near-equality in the number of electors in each constituency. They take no account of the geographies of support for the various political parties when recommending where the boundaries for each constituency should be placed: as well as electoral equality, as discussed below, they may take a number of other factors into account, but they do not include which parties might be advantaged or disadvantaged by their decisions. Nor is this just a matter of preference by the Commissions. Legally they can only deploy criteria identified in the primary legislation and the effects of a redistribution on party representation is not included in the 2011 Act; they are non-partisan not by choice but by law.

So there is no gerrymandering when constituency boundaries are redrawn in the UK, at least if the term is deployed as it has always been by those who study elections. But does the Labour party have a case with regard to the current exercise; have the rules been devised to give the Conservatives an electoral advantage? As we demonstrate here, those rules – introduced by the Conservative-led coalition in 2011 – were formulated not to give the Conservatives an advantage but rather to remove a Labour advantage. A Conservative disadvantage was to be removed by creating a level playing-field from which neither party automatically benefited. (Though of course this mantra of electoral equality – that each person's vote should be of equal value wherever it is cast – is only truly achieved under a system of proportional representation. The votes of the vast majority of UK electors are cast in constituencies that never change hands and hence make no difference to the outcome; instead, as the parties are only too well aware – and structure their campaigning strategies accordingly – that outcome is inevitably determined in a small number of marginal seats – the number of which was smaller after the 2015 general election than after any other post-1945 contest.[10] Further, the claim for equality of votes by having constituencies of equal size within the UK's first-past-the-post system applied only to the two largest parties. As the 2015 general election result made very clear, all other, invariably smaller, parties are treated unequally in the translation of votes into seats under the first-past-the-post system – getting a smaller, in many cases very much smaller, share of the seats than of the votes; the estimates for the outcome of that election if it had been fought in the new constituencies used below confirm that remains the case even with equal-sized electorates.)

Towards a level playing field

From 1944 until 2011 the four Parliamentary Boundary Commissions were required to recommend constituencies whose electorates were as 'equal as practicable' given the application (or precedence) of other rules which required their boundaries not to cross those of major local authorities, to be drawn so as not to disrupt community ties, and also not to be substantially changed from those already existing unless there were strong reasons to do so.[11] For the first decade the Commissions (especially that for England) decided that rural constituencies should on average have fewer electors than those in urban areas, on the grounds that because of accessibility issues the former were more difficult for MPs to service than the latter. That policy was then dropped, and from then until their final review before the new rules were implemented there was no set policy other than that the Commissions could take special geographical considerations into account, which was used to justify small constituencies – in terms of the number of electors – in relatively remote and thinly-peopled areas such as Orkney & Shetland and the Western Isles.

As a consequence, over that period constituencies won by Labour tended to have fewer electors than those won by the Conservatives, as shown in Figure 1. This came about for two main reasons. Firstly, the *House of Commons (Redistribution of Seats) Act, 1944* specified a minimum number of seats from each of Scotland and Wales but, by setting a maximum for Great Britain as a whole,

capped the number for England. As the English electorate tended to increase at a greater rate than that for the other two countries, the average number of voters in each country's constituencies diverged; at the 1997 general election, for example, the average electorate for an English constituency was 68,926, whereas for Scottish and Welsh constituencies it was 54,806 and 55,015 respectively. As Labour was much stronger than the Conservatives in the latter two countries over that period (while in England the two parties were more evenly balanced, with the Conservatives the more popular at many elections), on average it needed fewer votes to win a seat than did the Conservatives. That advantage was somewhat reduced when the legislation was changed following Scottish devolution in 1999, after which the Boundary Commission for Scotland was required to create constituencies with the same average electorate as those in England (special geographical considerations being discounted), but a similar change was not introduced for Wales. As a consequence at the 2015 general election the average electorates for constituencies in the three countries were 72,853 in England, 69,403 in Scotland and 57,057 in Wales.

The second reason for the differences shown in Figure 1 concerns the length of time between redistributions: the period specified in legislation changed over the period, but after 1955 operationally it was approximately every ten years. Over such periods, many Labour-held seats – especially those in inner city and industrial areas – experienced declines in their electorates (relatively if not absolutely) whereas Conservative-held seats in suburban, smaller urban, and rural areas tended to grow. Thus the gap between the average constituency electorates tended to widen, as shown in Figure 1 where the elections when new constituencies were introduced are indicated. Labour's advantage increased as the constituencies aged. This was particularly the case at the end of the 1960s. The Boundary Commissions had recommended new constituencies in time for them to be introduced for the expected 1970 general election, but the Labour government voted against their implementation, believing that they would be disadvantaged by the change.

How substantial has Labour's advantage been from these two features of the British electoral system as it operated between the 1950 and 2015 general elections, an advantage derived not from gerrymandering but rather from that other American electoral cartographic abuse – malapportionment (in many cases as a by-product of the ageing process for districts just described rather than a deliberate act of policy)? A widely-used measure of that differential treatment – termed electoral bias – involves estimating how many seats each of the two main parties would have won at an election if both had obtained the same percentage share of the votes cast: if they are equal in the level of support won then under a 'fair' electoral system they should get the same number of seats.[12] But that was never the case; as Figure 2 shows, with equal vote shares Labour would have won more seats than the Conservatives at each election after 1955 because of variations in constituency electorates – with the greatest difference between the two in 1970 when the new constituency recommendations were not implemented. And again, paralleling the situation shown in Figure 1, as the constituencies aged so Labour's advantage over the Conservatives increased. But that increased advantage as the constituencies aged was much less in the 21st than in the 20th century. In the 1950s-1990s most cities lost population, especially from their inner areas; since then, there has been a substantial repopulation of many inner city areas – notably London – which has significantly reduced Labour's advantage.

By the end of the twentieth century the Conservatives were well aware of the existence of this disadvantage and determined to remove it when they were next returned to power. A Bill to achieve that end was one of the first introduced by the newly-appointed coalition government in 2010; it was enacted after much debate – mainly in the House of Lords – in February 2011.[13] With regard to the main issue being discussed here this altered the rules to be implemented by the Commissions in three main ways:

- Any differences across the four UK countries were eliminated by requiring a single electoral quota (i.e. average electorate);
- All constituencies, save for four 'protected constituencies' where the number of electors could be much smaller (for Orkney & Shetland, the Western Isles, and two for the Isle of Wight), were to have an electorate within +/-5% of the national average; and
- There was to be a redistribution every five years, linked to the five-year terms introduced by the *Fixed-Term Parliaments Act, 2011*, so that every general election is contested in a new set of constituencies based on electoral data only five years old.

Together these would remove the two main sources of Labour advantage/Conservative disadvantage because of malapportionment. All constituencies would have approximately the same electorates and frequent/regular redistributions would prevent major variations emerging as a result of ageing.

The legislation also reduced the number of MPs in the House of Commons from the current total of 650 to a fixed complement of 600 – on the grounds that this would reduce the cost of and help rebuild trust in politics.

The Boundary Commissions started work applying these new rules in March 2011 and by late 2012 had completed most of the procedure – which involved several rounds of public consultation – when the exercise was halted by Parliament, with the consequence that the 2015 election was fought in the same constituencies as the 2010 contest (and the 2005 contest in Scotland), thereby further entrenching Labour's malapportionment advantage. The legislation was not removed, however, and an amendment required the Commissions to start the procedure again in 2016, reporting by October 2018 for Parliament to adopt their recommendations and have the new constituencies in place in time for the expected general election in 2020.

The exercise began in March 2016, with the Commissions – as required under the Act – using the registered electorate in December 2015 to determine the electoral quota (74,769) the +/-5% limits around that (71,031-78,507), and the number of seats for each country (England 501 – a reduction of 32; Scotland 53 – a reduction of six; Wales 29 – a reduction of 11; and Northern Ireland 17 – a reduction of 1). The English, Welsh and Northern Ireland Commissions published their initial recommendations in early September. (The Scottish Commission published its recommendations in October, but since the Conservative and Labour parties each won only one seat there at the 2015 general election, those data are excluded from the calculations here. Northern Ireland is excluded because of its separate party system.) The average constituency electorate in England (excluding the two Isle of Wight seats) in those recommendations is 74,727 and in Wales it is 75,191.

Estimates produced by Anthony Wells of the polling company YouGov suggest that if the 2015 general election had been held in those 528 new English and Welsh constituencies, the Conservatives would have won 317 and Labour 203, with three each for the Liberal Democrats and Plaid Cymru, and one for UKIP.[14] (The final seat is held by the Speaker, and was not contested by the main political parties in 2015.) The average Conservative-held seat would have contained 74,689 electors and the average Labour-held seat 74,869.

The differential in average constituency electorate between the two parties was thus eliminated by this application of the new rules (as was also the case in 2011 in their aborted first application[15]). And so, as a consequence, was the pro-Labour bias as a result of differences in constituency electorates. In England and Wales if the two parties had obtained equal vote shares at the 2015 general election in the current constituencies, Labour would have won 15 more seats than the Conservatives because of variations in their electorates; if that election had been fought in the

recommended new constituencies, there would have been a minimal advantage to the Conservatives of just one seat.

Gerrymandering – UK-style?

These proposals achieve the Conservatives' goal of removing Labour's electoral advantage because of variations in constituency size both between and within the UK's countries, therefore, and a further review starting in 2021 will ensure that the 'ageing problem' does not recur (assuming there is no general election before 2020 and the 2011 legislation is neither amended nor repealed in the interim). They do not replace it by a pro-Conservative advantage, however; the playing field has been levelled, but Labour has not been placed in a disadvantageous position.

The Commissions' proposals are not final, however, and their publication initiated a year-long period of public consultation. Respondents have been invited to comment on the recommendations and, where they think it desirable, suggest alternative configurations that better meet the rules – while remaining within the +/-5% limits around the national quota. In the past, those consultations have been dominated by the political parties, who seek change to the recommendations in ways that will improve their electoral prospects in particular places, arguing for new boundaries both orally at the Public Hearings and in written representations. They have become more professional and successful at that over recent decades. In the early 1990s, Labour put considerable resources into this and achieved a number of changes from the Commissions' provisional to final recommendations which advanced their cause; since then, the Conservatives have equalled and then overtaken Labour in the resources allocated to that exercise.[16]

What the parties attempt during the public consultation is, in effect, the equivalent of seeking to gerrymander constituency boundaries, by convincing the Commissions to change their recommended boundaries. Given the distribution of their support across the country, they are seeking to make that geography more efficient – just as gerrymanderers do in the United States and elsewhere – although of course they do not have the final say; everything depends on the Commissions' perceptions of the quality of their arguments. An efficient distribution is one where a party wastes as few of its votes as possible, both in constituencies where it loses and its votes deliver no House of Commons seats and in those where it wins with large majorities, so that a substantial proportion of its votes are surplus to requirements: the goal is to lose big (few wasted votes) and win small (few surplus votes). The extent to which one party's votes are more efficiently distributed than its opponent's can be evaluated in the same way as the bias resulting from differences in constituency electorates. In England and Wales in 2015, if the Conservatives and Labour had been equal in the number of votes won, the former would have gained 58 more seats than the latter because of greater efficiency in its vote distribution.[17] In the Commissions' September 2016 recommended constituencies that would have been almost unchanged, with a Conservative lead of 57 seats over Labour. The geography of their vote shares – their efficiency – thus currently strongly favours the Conservatives, and the Commissions' recommendations have not changed that situation.

There is one other major source of bias between Labour and the Conservatives – differences in turnout. Even if constituencies have equal electorates, higher abstention rates in those won by one party will advantage it over an opponent whose seats are won with higher turnouts; fewer votes are needed to win seats where turnout is low. Traditionally, this bias component has advantaged Labour because turnout tends to be lower in its heartlands than it is in the Conservatives'. At the 2015 general election in England and Wales, for example, turnout averaged 68.5 per cent in constituencies won by the Conservatives and 61.7 per cent in those won by Labour; in the bias calculations, this would have given Labour an advantage of 27 seats over the Conservatives if they had obtained equal vote shares. This differential remained in the Commissions' recommended

reduced number of constituencies: average turnout in Conservative- and Labour-won constituencies in 2015 would have been 70.8 and 64.5 per cent respectively, producing a pro-Labour bias from this component of 22 seats compared to 27 at the general election.

The UK's electoral system does not treat the two largest parties equally in the translation of votes at general elections into seats in the House of Commons, therefore. That unequal treatment results in several substantial bias components, not all of which favour one of them over the other. In 2015 differences in constituency electorates and turnout rates both favoured Labour, whereas differences in the efficiency of their geographical vote distributions favoured the Conservatives.[18] The latter party's goal when introducing the 2011 Act was to remove the first of those bias components that favour Labour – and it has been successful. The Commissions' initial recommendations will undoubtedly be changed, perhaps substantially in some areas, after the public consultations, but past evidence suggests that this is unlikely to alter the overall electoral outcome significantly.

Legislative malapportionment?

The Labour accusations of gerrymandering have little foundation, therefore. Constituency boundaries are drawn by independent Commissions, and each party has an equal opportunity to influence their final decisions – a facility that Labour was the first to deploy on a substantial scale. All that implementation of the 2011 rules for redistributions has done is remove one source of variation that has favoured Labour in the translation of votes into seats for more than sixty years, without replacing it by a pro-Conservative advantage.

But has Labour a case that the implementation of those new rules has been to its disadvantage, because of a recent decision by the Conservative government, although its impact is more akin to malapportionment than to gerrymandering? The rules set out in the 2011 Act require the Commissions to use the number of registered electors on the date when they start their review as the basis for determining the national quota, for the allocation of constituencies across the four countries, and for the detailed definition of each constituency's boundaries. The electoral register is recompiled every autumn and completed in December. As the Commissions began their work in March 2016, this meant that they had to use the December 2015 register, and could take no account of any changes to the number of registered electors, either nationally or in any local authority or ward therein, after that date.

The accuracy and completeness of the UK's electoral registers – they are maintained by local authorities – has been a cause of considerable concern for some years.[19] To tackle that, the 2010-2015 coalition government, developing on foundations set out by the previous Labour government, decided to change the procedure for compiling the register, building on earlier changes made in Northern Ireland; registration by household was to be replaced by Individual Electoral Registration (IER). Previously, in late summer of each year each household was sent a form on which the names of all eligible voters living there had to be entered, and they would then be registered. Under the proposed change, when that form was returned if the relevant Electoral Registration Officer had other evidence that a named person lived at the residence he/she was then registered, but if there was no such evidence the individual concerned was sent a further form inviting her/him to register. Only if that second form was received would the individual be placed on the register and, after a transition period, those who had not submitted a form would be removed. That period was to end by late 2016, with the legislation allowing the government to implement it a year earlier if it believed the register was now more accurate than previously. It decided to do that – against the Electoral Commission's advice – and so some 1.8million individuals who might otherwise have been on the electoral roll in December 2015 were not.

Why might this be important? The Electoral Commission's research shows that the December 2015 registers were only 85 per cent complete – some 15 per cent of those eligible to be on the register then (as many as eight million individuals) were not and so they did not contribute to the calculation of the electoral quota. If they had been evenly distributed across the country this would not be a major issue with regard to the redistribution of Parliamentary constituencies, but the Commission's research has shown that is not the case. Those not on the register are disproportionately to be found among young people, especially students, members of minority ethnic groups, those living in rented accommodation, and those who have recently moved home. Such groups tend to be concentrated in the country's major urban areas, which may therefore be under-represented in the allocation of Parliamentary constituencies because they contain a disproportionate share of the 'missing millions'.

How much of a difference might the presence of those individuals on the electoral register make to the redistribution exercise? As a first step we can examine the change in the electoral roll between December 2015 and June 2016. Although the register is formally compiled each December, individuals not on it can apply to be added up to a few days before any election and referendum. Many did so in the first half of 2016, because they wished to vote in the referendum on 23 June on whether the UK should remain a member of the European Union. Data for England and Wales (unfortunately complete figures are not available for Scotland) show that 1.89 million people were added to the register during that period, an increase of 4.8 per cent over the December 2015 figure. That increase was not uniform across the country, however. In nine local authorities it exceeded 10 per cent – these included five London boroughs and four cities with large student populations (Cambridge, Oxford, Canterbury and Lincoln).

If those 1.89 million additional voters are added to the numbers used for allocating seats across the English regions and Wales (assuming no change in the numbers allocated to Scotland and Northern Ireland), this increases the electoral quota to 77,581 and results in the small changes shown in Table 1; two regions (North West and South East) experience a loss of one seat each, and London gains two. The overall pattern is not substantially altered, therefore. It might be in certain parts of a region but an increase in the registered electorate means a change in the electoral quota, thereby reducing the impact of the changed geography of registered electors.

What if all of the missing millions were registered? As a rough estimate of its impact, we added a further six million voters to the electorate of England and Wales, distributed across the regions in the same proportion as the 1.89 million just discussed. The electoral quota then increases to 89,081 and the allocation of seats is as shown in Table 1's final column. The main change is for London, which receives a further three more seats, giving it 73 as against the 68 allocated to it in the current exercise.[20]

So has Labour been disadvantaged by both the government's decision regarding the transition to IER and the incompleteness of the electoral register? A more complete register would increase the number of constituencies allocated to London and, given the current pattern of voting there, Labour might anticipate winning several if not all of those extra seats. But those possible gains could be offset by the further reduction in the number of seats in the North East, North West and West Midlands – regions where Labour is relatively strong. The net gains to Labour are likely to be marginal, therefore, although the detailed configuration of individual constituencies with those enhanced electorates in certain parts of the country's major urban areas could be to its advantage.

Conclusions

The changes to the rules for redistribution of Parliamentary constituencies introduced in 2011 and currently being implemented by the Boundary Commissions were designed to remove a pro-Labour advantage in the translation of votes into seats that resulted from substantial variations in constituency electorates across the United Kingdom. Analysis of the initial results of that implementation (as with a prior but incomplete implementation) shows that the goal has been attained: that pro-Labour advantage has been eliminated. It has not been replaced by a pro-Conservative advantage, however, and the other causes of bias in the votes-to-seats translation, some of which favour Labour and others the Conservatives, have not been affected. Labour has lost an advantage but it has not also been substantially disadvantaged by decisions regarding the size and geographical distribution of the electorate deployed in the current exercise allocating seats to regions and determining the boundaries of individual constituencies. (The *Parliamentary Constituencies (Amendment) Bill 2016*, which passed its second reading on 18 November 2016 and was committed to a Public Bill Committee, would remove many of the changes introduced by the 2011 Act – returning the number of MPs to 650; having a +/-10% tolerance around the national quota; requiring redistributions every ten instead of five years; and using a more complete electoral roll. Despite the wider tolerance, however, implementation of those modified rules for redistribution would almost certainly not restore very much – if any – of Labour's current advantage in the translation of votes to seats, which would still be removed by the equalisation requirement.)

This is not, however, to conclude that all is well with the UK's electoral system. That it delivers – and continues to deliver – seats to parties disproportionately to their vote shares was made very clear by the treatment of UKIP, the Liberal Democrats, the Green Party and the SNP relative to the Conservatives and Labour at the 2015 general election. The Conservatives, Labour and the SNP obtained a larger percentage share of the seats than the votes whereas the Green Party, the Liberal Democrats and UKIP obtained many fewer seats than their share of the votes would have allocated to them under proportional representation; only Plaid Cymru's vote and seat shares were approximately equal (0.6 and 0.5 per cent respectively).[21] Furthermore, that disproportionality has been exacerbated at several recent general elections by very substantial bias: at its most extreme, at the 2001 general election, if the Conservatives and Labour had obtained equal shares of the votes cast, Labour could have won as many as 142 more seats than their opponent. But those are common features of first-past-the-post electoral systems and the definition of constituencies therein – without any gerrymandering. As Taylor and Gudgin showed in their classic work, the notion that constituency-definition by independent commissions involves a non-partisan cartography is a myth: partisan outcomes can result from non-partisan intentions.[22]

Although there is little evidence to suggest that Labour is being substantially disadvantaged by the current redistribution – there is no gerrymandering, the Conservatives have not gained an advantage by equalising electorates, only removed a Labour advantage, and the incomplete electoral register does not appear to be significantly acting against Labour's interests – nevertheless this is not to conclude that, whilst the current electoral system is retained, the rules which the Boundary Commissions have to implement and the procedures they adopt could not be improved. Research has shown, for example, that there would be less disruption and complexity in the creation of new constituencies if the tolerance around the national quota were increased from +/-5% to +/-8-10%, for example, and if the Boundary Commission for England was more prepared to split wards (the building blocks it deploys in defining constituencies), especially in urban areas.[23] But such changes would be marginal with regard to the overall impact: without gerrymandering but with equal electorates and a fixed number of constituencies, disproportional and biased results will continue to be the norm with constituencies defined using the new rules for redistribution.

Notes

[1] See, for example, David Blunkett, *The Hidden Agenda* - http://www.progressonline.org.uk/content/uploads/2012/10/The-Hidden-Agenda.pdf
[2] http://www.thefreedictionary.com/gerrymander
[3] https://en.wikipedia.org/wiki/Gerrymandering
[4] https://www.google.co.uk/?gws_rd=ssl#q=gerrymander
[5] http://dictionary.cambridge.org/dictionary/english/gerrymandering
[6] http://www.chambers.co.uk/search.php?query=gerrymander&title=21st
[7] Examples of such odd-shaped districts can be found in M. S. Monmonier, *Bushmanders and Bullwinkles: How Politicians Manipulate Electronic Maps and Census Data to Win Elections* (Chicago: University of Chicago Press, 2001).
[8] See 'Jeremy Corbyn accuses Tories of 'gerrymandering', http://www.itv.com/news/update/2015-09-29/jeremy-corbyn-accuses-tories-of-gerrymandering/.
[9] Tristram Hunt, This boundary gerrymandering is grotesque. What next, abolish Labour seats?', *The Guardian* online, https://www.theguardian.com/ commentisfree/2016/sep/13/boundary-changes-labour-party-seats-mp. Although early in the article he refers again to 'grotesque gerrymandering' most of his discussion focuses on the incomplete electoral register – a valid problem as discussed below – but nothing to do with gerrymandering! In November 2016 the House of Commons debated a Private Member's Bill (the Parliamentary Constituencies (Amendment) Bill, with several members using the term – Ian Murray MP (Labour), for example, referring to 'this Conservative government's gerrymandering of the constitution' (*House of Commons Hansard*, 16 November 2016, p.506.
[10] R. J. Johnston, C. J. Pattie and D. Manley, 'Britain's changed electoral map in and beyond 2015: the importance of geography', *The Geographical Journal*, doi 10.1111/geoj.12171
[11] For a detailed study of the work of the Commissions see D. J. Rossiter, R. J. Johnston and C. J. Pattie, *The Boundary Commissions: Redrawing the UK's Map of Parliamentary Constituencies* (Manchester: Manchester University Press, 1999).
[12] For a full discussion of bias at British general elections see R. J. Johnston, C. J. Pattie, D. Dorling and D. J. Rossiter, *From Votes to Seats: the Operation of the UK Electoral System since 1945* (Manchester: Manchester University Press, 2001).
[13] On the legislation see R. J. Johnston and C. J. Pattie, 'From the organic to the arithmetic: new redistricting/redistribution rules for the United Kingdom', *Electoral Law Journal*, 11, 2012, 70-89.
[14] See http://ukpollingreport.co.uk/.
[15] R. J. Johnston, 'Which map? Which government? Malapportionment and Gerrymandering UK-Style', *Government and Opposition*, 50, 2015, 1-23.
[16] R. J. Johnston, C. J. Pattie and D. J. Rossiter, 'Manipulating territories: British political parties and new Parliamentary constituencies', *Territory, Politics, Governance*, 1, 2013, 223-245.
[17] It is worth noting that this is a consequence of such factors as the parties' campaign strategies, which have little to do with a boundary redistribution. It is not a 'smoking gun' from a Conservative conspiracy but rather reflects the Conservatives out-campaigning Labour in 2015; Labour was the beneficiary of such out-campaigning at elections between 1992 and 2001: Johnston et al., *From Votes to Seats*.
[18] Other factors, such as the performance of third parties, can also impact on the bias outcomes, as discussed in Johnston et al., *From Votes to Seats*.
[19] See, for example, J. Thomas, *10 million missing voters! a briefing report on the failings of the new electoral system,* The Smith Institute, London, 2015; The Electoral Commission, *The December 2015 Electoral Registers in Great Britain*, The Electoral Commission, London, 2016.
[20] A similar, earlier, exercise came to the same outcome: R. J. Johnston and I. Mclean, 'Individual electoral registration and the future of representative democracy', *British Academy Review*, 19, 2012, 58-60.
[21] If Wales is considered separately, then Plaid Cymru was underrepresented7.5 per cent) there with 12.1 per cent of the votes cast but only 3 of the 40 seats (7.5 per cent). The SNP, with slightly under 50 per cent of the votes cast in Scotland was clearly over-represented there, with 95 per cent of the 59 seats.
[22] P. J. Taylor and G. Gudgin, 'The myth of non-partisan cartography: a study of electoral biases in the English Boundary Commission's redistribution for 1955-1970', *Urban Studies*, 13, 1976, 13-25; see also G. Gudgin and P. J. Taylor, *Seats, Votes and the Spatial Organisation of Elections* (Colchester: ECPR Press, 2012).

[23] R. J. Johnston, D. J. Rossiter and C. J. Pattie, *Equality, Community and Continuity: Reviewing the UK Rules for Constituency Redistributions* (London: The McDougall Trust, 2014).

Table 1. The regional distribution of constituencies with different numbers of MPs and variations in the completeness of the electoral register

	Current	Proposed	2016 Register	Complete Register
North East	29	25	25	24
North West	75	68	67	66
Yorkshire and the Humber	54	50	50	50
East Midlands	46	44	44	43
West Midlands	59	53	53	52
Eastern	58	57	57	56
London	73	68	70	73
South East	84	83	82	83
South West	55	53	53	53
Wales	40	29	29	29
Scotland	59	53	53	53
Northern Ireland	18	17	17	17
TOTAL	650	600	600	600

Figure 1. The mean electorate in seats won by the Conservative and Labour parties at general elections, 1950-2015. (The vertical lines on the graph indicate the first election held with a new set of constituencies.)

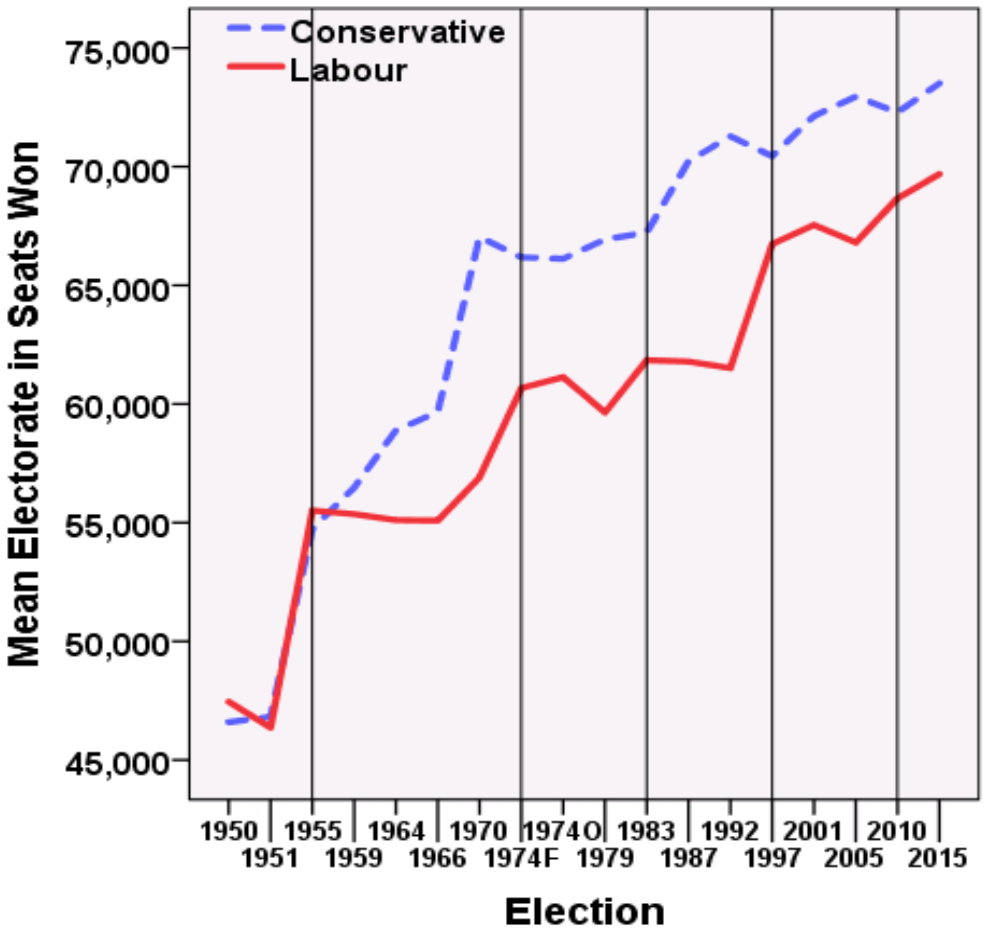

Figure 2. The bias as a result of variations in constituency size at British general elections 1950-2015: a positive bias favours labour and a negative bias favours the Conservatives. (The vertical lines on the graph indicate the first election held with a new set of constituencies.)