



# THE ALTERNATIVE VOTE

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*It's not the voting that's democracy, it's the counting.*

Tom Stoppard, *Jumpers* (1972)

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# 1 Background and context

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1.1 The Parliamentary Voting System and Constituencies Bill (the Bill), published on 22nd July, describes the form of Alternative Voting system ('AV') which will be put to a referendum on 5th May 2010.

1.2 The referendum question will be:

*'Do you want the United Kingdom to adopt the 'alternative vote' system instead of the current 'first past the post' system for electing Members of Parliament to the House of Commons?'*

1.3 The referendum will be decided by a simple majority.

1.4 None of the main political parties has expressly stated what the reasons are to change the electoral system from First Past the Post (FPTP) to AV. The Coalition Agreement states:

*"The Government believes that our political system is broken. We urgently need fundamental political reform, including a referendum on electoral reform, much greater co-operation across party lines, and changes to our political system to make it far more transparent and accountable."*

1.5 In his evidence to the House of Commons Select Committee on Political and Constitutional Reform Nick Clegg said:

*The big virtue [of AV] is twofold: it stops people from voting tactically...[and] it also means that people elected to Westminster know that, through the redistribution of the votes, they have a mandate of 50% or more of people in their community...so people [will] feel that all their votes count...and...there's a stronger sense of legitimacy when people arrive here to represent their constituents.... These are significant pluses and they go with the grain with the way politics is conducted at the moment.*

1.6 This is not the first time that a change to AV has been considered. For a history of AV and electoral reform proposals refer to the [House of Commons Briefing paper SN/PC/05317](http://www.re-constitution.org.uk).

1.7 The only other countries in the world to use the AV system in general elections are Australia, Fiji and Papua New Guinea. In Australia voting is compulsory and exercising all preferences on the ballot paper is compulsory.

1.8 The system of AV proposed in the Bill is an 'optional preference' system, which does not require all voters to rank all candidates according to preference.

1.9 AV is *not* a form of proportional representation. Like FPTP, AV is a *preferential* system under which voters vote for a specific MP in single-member constituencies.

1.10 The Coalition Agreement provides as follows:

*We will bring forward a Referendum Bill on electoral reform, which includes provision for the introduction of the Alternative Vote in the event of a positive result in the referendum, as well as for the creation of fewer and more equal sized constituencies. We will whip both Parliamentary parties in both Houses to support a simple majority referendum on the Alternative Vote, without prejudice to the positions parties will take during such a referendum.*

## 2 Facts

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### **Voting**

2.1 The Electoral Reform Society describes voting under AV as follows

*The Alternative Vote (AV) is very much like First Past the Post (FPTP). Like FPTP, it is used to elect representatives for single-member constituencies, except that rather than simply marking one solitary 'X' on the ballot paper, the voter has the chance to rank the candidates on offer.*

*The voter thus puts a '1' by their first-preference candidate, and can continue, if they wish, to put a '2' by their second-preference, and so on, until they don't care anymore or they run out of names.*

<http://www.electoral-reform.org.uk/article.php?id=55central>

2.2 The Bill provides as follows:

In paragraph 7

*How votes are to be given*

37(A) (1) A voter votes by marking the ballot paper with –

(a) the number 1 opposite the name of the candidate who is the voter's first preference (or, as the case may be, the only candidate for whom the voter wishes to vote),

(b) if the voter wishes, the number 2 opposite the name of the candidate who is the voter's second preference,

and so on.

(2) The voter may mark as many preferences (up to the number of candidates) as the voter wishes.

<http://www.re-constitution.org.uk>

## Counting

2.3 The Electoral Reform Society explains the counting of votes under AV as follows:

*If a candidate receives a majority of first-preference votes (more people put them as number one than all the rest combined), then they are elected.*

*If no candidate gains a majority on first preferences, then the second-preference votes of the candidate who finished last on the first count are redistributed. This process is repeated until someone gets over 50 per cent.*

<http://www.electoral-reform.org.uk/article.php?id=55central>

2.4 The Electoral Reform Society's description does not make clear whether the winning candidate is to achieve more than 50% of all votes cast in the election (as in Australia) or more than 50% of the votes counted in the final round of counting.

2.5 The Bill provides in paragraph 7 as follows:

### *How votes are to be counted*

- 45 (A) (1) *This rule sets out how votes are to be counted, in one or more stages of counting, in order to give effect to the preferences marked by voters on their ballot papers and so to determine which candidate is elected.*
- (2) *Votes shall be allocated to candidates in accordance with voters' first preferences and, if one candidate has more votes than the other candidates put together, that candidate is elected.*
- (3) *if not, the candidate with the fewest votes is eliminated and that candidate's votes shall be dealt with as follows –*
- (a) *each vote cast by a voter who also ranked one or more of the remaining candidates shall be reallocated to that remaining candidate or (as the case may be, to the one that the voter ranked highest;*
- (b) *any votes not reallocated shall play no further part in the counting.*
- (4) *If after that stage of counting one candidate has more votes than the other remaining candidates put together, that candidate is elected.*
- (5) *If not, the process mentioned in paragraph (3) above shall be repeated as many times as necessary until one candidate has more votes than the other remaining candidates put together, and so is elected.*

2.6 The Bill does not make clear what the purpose is of the third and subsequent preferences of voters in the counting process, but it is presumed that these are called into operation in later rounds of counting when higher preference candidates have already been eliminated from the voting.

<http://www.re-constitution.org.uk>

- 2.7 The explanatory note from the Bill states that *candidates must achieve more than 50% of the votes in the count - either at the initial counting stage or, if necessary, at a further counting stage - in order to be elected*. The Bill therefore anticipates that the total number of votes counted in each round will be diminishing, so that the winner in final round **need not necessarily** have polled more than 50% of all votes cast in the election.

### 3 Worked Example

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- 3.1 This section contains a description of an election in an imaginary constituency conducted using the AV system described in the Bill.
- 3.2 This example shows the mechanics of voting and counting as well as illustrating some of the changes in voter behaviour which might occur under AV.

## 3.3

*The Blandville Election: the vote***Background**

Blandville is a mixed urban and rural constituency. The Conservatives won the seat by a narrow margin in 2010, with the LibDems in second place. The Conservatives held the seat at a subsequent by-election, occasioned by the death of the sitting MP, conducted under the First Past The Post (FPTP) system. The results in that by-election were as follows:

Candidate	Votes
Abel (Con)	15,500
Baker (LibDem)	14,000
Charles (Lab)	8,000
Donald (UKIP)	1,500
Ellis (Independent)	1,000
<b>Total votes cast in election</b>	<b>40,000</b>

Abel held the seat for the Conservatives with a 1,500 majority, winning 38.75% of the votes cast.

**The AV vote**

A general election is called a few weeks later, in which the AV system is used for the first time. It is assumed that there have been no changes in the national standing of the parties in the intervening period, and that the turnout in Blandville is same as in the recent by-election. Here are the votes received by each candidate in each preference category:

Candidate	Votes					Total votes
	1 <sup>st</sup> pref	2 <sup>nd</sup> pref	3 <sup>rd</sup> pref	4 <sup>th</sup> pref	5 <sup>th</sup> pref	
Abel (Con)	14,500	8,500	3,500	1,250	400	<b>28,150</b>
Baker (LibDem)	10,500	12,000	4,000	750	250	<b>27,500</b>
Charles (Lab)	10,000	5,500	2,250	700	250	<b>18,700</b>
Donald (UKIP)	3,000	1,500	500	100	0	<b>5,100</b>
Ellis (Ind)	2,000	2,500	1,250	400	200	<b>6,350</b>
<b>Total votes</b>	<b>40,000</b>	<b>30,000</b>	<b>11,500</b>	<b>3,200</b>	<b>1,100</b>	<b>85,800</b>



**OBSERVATIONS:**

- A) Compared to the result of the recent by-election, Donald and Ellis, the two outsiders, both gained 1<sup>st</sup> preference votes at the expense of the main parties. This is because in an AV system some voters are more likely to vote 'with the heart rather than the head' for candidates who they do not expect to win: these voters will commonly give their 2<sup>nd</sup> preference vote to one of the candidates from the main parties.
- B) Compared with the result of the recent by-election, Charles, the Labour candidate, has gained 1<sup>st</sup> preference votes at the expense of Baker, the Lib Dem candidate. The most likely explanation is that in the by-election, conducted under FPTP, some 'natural' Labour supporters voted tactically for Baker, because they thought he was the only candidate capable of beating the Conservative Abel. Under AV, these tactical voters can be expected to cast their 1<sup>st</sup> preference vote for Charles, the candidate they actually want to win, but may then use their 2<sup>nd</sup> preference vote tactically.
- C) 75% of all voters cast a 2<sup>nd</sup> preference vote. Much smaller numbers cast 3<sup>rd</sup>, 4<sup>th</sup> or 5<sup>th</sup> preference votes. The total number of votes cast in all preference categories was 85,800, out of a potential maximum of 200,000 votes (40,000 turnout x 5 candidates). Under an AV system where voting is optional, it is likely that most voters will not allocate a preference to every candidate.
- D) Baker has significantly more second preference votes than either Abel or Charles. The likely explanation is that many voters who selected either the Labour or Conservative candidate as their 1<sup>st</sup> preference have selected the LibDem candidate as their 2<sup>nd</sup> preference.

### *The Blandville Election: the count*

#### **1st count**

The votes are now counted (ie everybody's 1<sup>st</sup> preference votes) using the method laid down in the Bill. On the basis of the first preference selections, no candidate has more than 50% of the total votes cast. It is therefore necessary to go to a 2<sup>nd</sup> count.

#### **2<sup>nd</sup> Count**

Ellis has the lowest number of 1<sup>st</sup> preference votes. He is eliminated and his 2<sup>nd</sup> preference votes (i.e. the 2<sup>nd</sup> preferences of those voters who selected Ellis as their 1<sup>st</sup> preference candidate) are distributed to the other candidates. Of the 2,000 voters who selected Ellis as their first preference, 200 did not select any other preference and are therefore eliminated from the second count. 1,800 electors selected a 2<sup>nd</sup> preference candidate, and these votes are distributed as follows:

	<b>1<sup>st</sup> pref votes</b>	<b>Ellis's 2<sup>nd</sup> pref votes</b>	<b>Total votes</b>
Abel (Con)	14,500	700	<b>15,200</b>
Baker (LibDem)	10,500	600	<b>11,100</b>
Charles (Lab)	10,000	300	<b>10,300</b>
Donald (UKIP)	3,000	200	<b>3,200</b>
<b>Total</b>	<b>38,000</b>	<b>1800</b>	<b>39,800</b>

After reallocating Ellis' 2<sup>nd</sup> preference votes, there is still no candidate with more than 50% of the vote; it is therefore necessary to go to a 3<sup>rd</sup> count.

#### **3<sup>rd</sup> count**

Donald now has the lowest number of votes (1<sup>st</sup> preference votes plus transferred votes). He is eliminated and his 2<sup>nd</sup> preference votes (i.e. the 2<sup>nd</sup> preferences of those voters who selected Donald as their 1<sup>st</sup> preference candidate) are distributed to the other candidates. Of the 3,000 voters who selected Donald as their first preference, 2,500 selected a 2<sup>nd</sup> preference candidate, and these votes are distributed as follows:

	<b>votes after 2<sup>nd</sup> count</b>	<b>Donald's 2<sup>nd</sup> pref votes</b>	<b>Total votes after 3<sup>rd</sup> count*</b>
Abel (Con)	15,200	1,800	<b>17,030</b>
Baker (LibDem)	11,100	100	<b>11,250</b>
Charles (Lab)	10,300	300	<b>10,620</b>
<b>Total</b>	<b>36,600</b>	<b>2,200</b>	<b>38,900</b>

\*300 voters who chose Donald as their 1<sup>st</sup> preference candidate chose Ellis as their 2<sup>nd</sup> preference. These votes cannot be reallocated since Ellis has already been eliminated. Of these 300 voters, 100 also selected a 3<sup>rd</sup> preference candidate. These 100 votes are allocated to the 3<sup>rd</sup> preference candidate as follows: Abel: 30, Baker: 50, Charles: 20.

After reallocating Donald's' votes, there is still no candidate with more than 50% of the vote; it is therefore necessary to go to a 4<sup>th</sup> count

#### 4<sup>th</sup> count

Charles now has the lowest number of votes (1<sup>st</sup> preference votes plus transferred votes). He is eliminated and his 2<sup>nd</sup> preference votes (i.e. the 2<sup>nd</sup> preferences of those voters who selected Charles as their 1<sup>st</sup> preference candidate) are distributed to the other candidates. Of the 10,000 voters who selected Charles as their first preference, 8,500 selected a 2<sup>nd</sup> preference candidate, and these votes are distributed as follows:

	<b>votes after 3<sup>rd</sup> count</b>	<b>Charles's 2<sup>nd</sup> pref votes</b>	<b>Total votes after 4<sup>th</sup> count*</b>
Abel (Con)	17,030	400	<b>17,460</b>
Baker (LibDem)	11,250	7,500	<b>18,920</b>
<b>Total</b>	28,280	7,900	<b>36,380</b>

\*600 voters who chose Charles as their 1<sup>st</sup> preference candidate chose either Donald or Ellis as their 2<sup>nd</sup> preference. These votes cannot be reallocated since Donald and Ellis have already been eliminated. Of these 600 voters, 200 also selected either Abel or Baker as a 3<sup>rd</sup> or 4<sup>th</sup> preference candidate. These 200 votes are allocated as follows: Abel: 30, Baker: 170.

#### Result

After the 4<sup>th</sup> count, Baker has 52% of the votes of the remaining candidates (1<sup>st</sup> preference votes plus transferred votes) and so has won the election.

## OBSERVATIONS:

- E) The result is intuitively surprising. Abel achieved over 36% of the first preference votes, compared with Baker's 26%. Abel had 3,500 more 1<sup>st</sup> preference votes than Baker, and 500 more 1<sup>st</sup> and 2<sup>nd</sup> preference votes combined (23,000 against 22,500). Abel also has more aggregate votes across all preference categories than any other candidate.
- F) Baker has won because a large number of the voters who selected Charles as their 1<sup>st</sup> preference also selected Baker as their 2<sup>nd</sup> preference.
- G) The 2<sup>nd</sup> and subsequent preference votes of electors whose first preference was for Abel and Baker, the two candidates who made it into the final round, have not counted towards the result.
- H) Although Baker has secured over 50% of those votes which counted in the final round, he has not secured an outright majority of all the total votes cast in the election. 40,000 votes were cast, and Baker's final count was 18,920 (47.3%).

## 4 Issues

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### ***Factors determining the result in an AV election***

- 4.1 The methodology which the AV system uses to generate a result is more complex than it may appear. As the *Blandville* example demonstrates, the winning candidate does not necessarily have the highest number of aggregate votes cast across all preference categories. Nor is superiority in 1<sup>st</sup> preference votes, or in 1<sup>st</sup> and 2<sup>nd</sup> preference votes combined, sufficient in itself to secure victory.
- 4.2 Nor, in the 'optional preference' proposed for the UK, does the winning candidate necessarily have an outright majority of the total vote (i.e. of the total number of people who voted). In Australia, where the AV system is used for House of Representatives elections, voting is compulsory and voters are thus required to allocate a preference to every candidate on the ballot. As a consequence, the winning candidate *does* always achieve an outright majority of the total vote.
- 4.3 The result in the system of AV proposed in the Bill will be determined by the relative distribution of votes between the candidates across different preference categories, and by the sequence in which candidates are eliminated. In particular, it is worth noting that the 2<sup>nd</sup> and subsequent preference votes of the two final candidates never count towards the result.
- 4.4 In order to maximise the chances of his preferred candidate, a voter must rank the other candidates in an optimum order, taking account of past results and polling information. (This is a potentially complex exercise which most voters will not attempt themselves: in Australia, the Party organisations publish lists instructing their supporters how to rank the candidates for maximum advantage.)
- 4.5 Most of what we know about the practical operation of AV is derived from Australia, the only other country where the AV method has been used over a long period to elect members of a legislature in a mature democracy. In the Australian system it is compulsory to allocate a preference to all candidates on the ballot: we do not know how voters will behave in an AV system where voting is optional.
- 4.6 While it is probably correct to assume that in the optional system proposed in the Bill, a majority of voters will assign preferences to at least two candidates, a significant minority may select only one candidate. It is likely that only a small minority of voters will assign a preference to *every* candidate, particularly in a large field. The relative extent to which voters for different 1<sup>st</sup> preference candidates choose to complete the rest of the ballot may have a significant effect on the final result. To give an extreme example, if *no one* selected a second or subsequent preference, then what would the outcome of the election be?
- 4.7 While AV does have the potential to produce apparently 'rogue' results, it is worth noting that in Australian House of Representatives elections, the candidate with the largest number of 1<sup>st</sup> preference votes does in fact emerge as the winner in around 90% of cases.

## ***AV and Proportional Representation***

- 4.8 There is nothing in the operation of the AV system which increases the correlation between each Party's percentage of the national vote and the number of Parliamentary seats it secures. The Jenkins Commission pointed out that there are circumstances in which AV will produce a significantly *less* proportional result than FPTP.

### **Extract from the Report of The Independent Commission on the Voting System (Jenkins Commission) 1998:**

82. *Beyond this AV on its own suffers from a stark objection. It offers little prospect of a move towards greater proportionality, and in some circumstances, and those the ones which certainly prevailed at the last election and may well do so for at least the next one, it is even less proportional than FPTP. Simulations of how the 1997 result might have come out under AV suggest that it would have significantly increased the size of the already swollen Labour majority. A 'best guess' projection of the shape of the current Parliament under AV suggests on one highly reputable estimate the following outcome with the actual FPTP figures given in brackets after the projected figures: Labour 452 (419), Conservative 96 (165), Liberal Democrats 82 (46), others 29 (29). The overall Labour majority could thus have risen from 169 to 245. On another equally reputable estimate the figures are given as Labour 436, Conservatives 110, Liberal Democrats 84 and others 29, an overall majority this time of 213. On either basis an injustice to the Liberal Democrats would have been nearly two-thirds corrected (their strictly proportional entitlement was 111 seats) but at the price of a still greater injustice to the Conservatives. The Conservative 30.7% of the votes should strictly have given them 202 seats. Instead FPTP gave them 165 or 25% of the seats, whereas AV would have given them on one estimate only 96 (or 14.6% of the seats), and on the more favourable one from their point of view 110 seats (or 16.7% of the total).*

83. *The 1997 election, it can be argued, was far from typical. The scenario was the one most calculated to produce an exaggerated majority and to increase disproportionality. There was a strong desire to get rid of the incumbent government, the third party (Liberal Democrats) was much closer to the main Labour challenger than to the government, and many voters cared more about casting an anti-Conservative vote than about whether this would result in a Labour or a Liberal Democrat victory in their particular constituency. (This last factor, however, did not clearly add to the difference between a FPTP and an AV result, for many electors did a sort of 'do it yourself' AV and voted for whichever of the two opposition candidates they thought was the more effective challenger.) In the three previous elections, those of 1983, 1987 and 1992, AV would have had a less distorting effect on proportionality between the two main parties. For example, one estimate suggests that it would have led to a Conservative majority (with the actual FPTP result again given in brackets) of 27 (21) in 1992. But it would have avoided this distortion at the expense of being able to claim much less credit for correcting the adverse treatment of the third party. The Liberal Democrats would in 1992 have got only 31 or 4.8% of the seats for 19% of the vote.*

## 5 Arguments for and against AV

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- 5.1 The constituency system is retained under AV, and the link between voters and an individual constituency MP. AV could be introduced without redrawing constituency boundaries: the fact that a substantial boundary review is included in the Bill is a product of political compromise, not mechanical necessity.
- 5.2 Generally AV represents a relatively minor change from the current system. While this continuity is arguably positive, some people oppose a referendum on AV on the grounds that it significantly reduces the likelihood of a referendum on Proportional Representation in the future.
- 5.3 It is often said that under AV the winning candidate has the support of at least 50% of his constituents, a claim which Nick Clegg made in his recent evidence before the Select Committee on Political and Constitutional Reform. This is indeed true under the Australian AV system where it is compulsory to allocate a preference to all candidates, but, as the Blandville example demonstrates, it is *not* necessarily true in a system where voting is optional (although it will be true sometimes)
- 5.4 It is often claimed that AV 'stops people voting tactically' as Nick Clegg told the Select Committee in his evidence. It is true that, under an AV system, voters are unlikely to cast their 1<sup>st</sup> preference 'tactically' (i.e. vote for a candidate they do not really want to win, in order to defeat an even less desirable candidate). However the evidence from Australia is that voting in AV elections is in general highly 'tactical' since it is necessary to place the candidates in a very specific order of preference to maximise the chances of any particular favoured candidate. Tactical voting does not disappear under AV<sup>1</sup>; instead its arithmetic becomes more complex.
- 5.5 Even in Australia where the winning candidate necessarily receives a preference vote from 50% of the electorate, a candidate preferred by the majority of voters can still lose under AV. This happens as a result of the interaction between preference allocation and candidate elimination. For example, if there are three candidates (A, B and C) and a majority of voters give their first or second preference to candidate A (thus making A the most preferred), candidate B or C could still be elected (even though a majority of the electorate thinks they are inferior to A). This would happen if candidate A were eliminated in the first round, thus voiding their second preference votes. This example is demonstrated by Dr. Hortala-Vallve.
- 5.6 It is often said that, because it is not a proportional system, AV does not increase the likelihood of coalition government. This is true at a level of general principle, but may need to be qualified in the particular current circumstances of UK politics. As in the imaginary *Blandville* election, Conservative and Labour voters are in general more likely to give their 2<sup>nd</sup> preference vote to a LibDem candidate than to the traditional rival. To this extent, AV favours the LibDems and thus makes coalition government more likely. It is impossible to know the likely strength of this effect in a future AV general election, or indeed whether it will survive the current period of coalition government.
- 5.7 Some opponents of AV point out that it is prone to 'Donkey Voting' where voters rank candidates randomly. This is no doubt true up to a point, although less likely to be prevalent under an optional, as opposed to compulsory, AV system. In any event truly random selection of lower-preference candidates by some voters is unlikely to have a material effect on the result.

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<sup>1</sup> In fact any voting system which chooses from three or more candidates is inevitably susceptible to tactical voting. This rule is known in game theory as the Gibbard-Satterthwaite theorem.

## 6 Further references and Links

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The Constitution Society's discussion website:

<http://www.re-constitution.org.uk/>

House of Commons Briefing Paper:

<http://www.parliament.uk/documents/commons/lib/research/briefings/snpc-05317.pdf>

British Academy "Choosing an Electoral System" by Simon Hix, Ron Johnston FBA and Iain McLean FBA:

<http://www.britac.ac.uk/policy/choosing-electoral-system.cfm>

<http://www.re-constitution.org.uk/discover-the-facts/electoral-process>