**PRESS RELEASE ATTACHMENT**

**EMBARGOED: 0001am on Thursday 29th November 2018.**

**BREXIT: SO WHAT’S IT TO BE, IF THE CHOICE IS OF THREE?**

Assume there are three options, ***A, B*** and ***C***, with no majority for any of them. Imagine a parliament of just 9 MPs, with (1st, 2nd, 3rd) preferences as follows: 4 like ***A***-***B***-***C***; 2 opt for ***B***-***C***-***A***; and the 3 ***C*** supporters are split, 2 want ***C***-***B***-***A*** and 1 wants ***C***-***A***-***B***.

|  |  |
| --- | --- |
| Preferences | No of voters |
| 4 | 2 | 2 | 1 |
| 1st | ***A*** | ***B*** | ***C*** | ***C*** |
| 2nd | ***B*** | ***C*** | ***B*** | ***A*** |
| 3rd | ***C*** | ***A*** | ***A*** | ***B*** |

A cursory glance suggests that ***A*** with the most 1st preferences but just as many 3rd preferences is very divisive.  Opinions on ***C*** are also a bit mixed.  So maybe ***B***, the 1st or 2nd preference of almost everybody, best represents the collective will. But what happens with majority voting?

If the question is “option ‘x’, yes-or-no?” a majority of 5 doesn’t prefer ***A***, of 7 doesn’t favour ***B***, and of 6 doesn’t give ***C*** a 1st preference. So the agreement fails; a ‘no deal’ fails; a second referendum fails; every idea fails.

Try instead “option ‘x’ versus option ‘y’?” questions. And assume everyone votes in accordance with their preferences as shown in the table. So, if the first round:

* is ***A*** v ***B***, which ***A*** wins 5 to 4, the second round will be ***A*** v ***C***, and ***C*** will win, again 5 to 4;

But if the first round:

* is ***B*** v ***C***, which ***B*** wins 6 to 3, for a second round of ***B*** v ***A***, then ***A*** will win 5 to 4.

And if the first round:

* is ***C*** v ***A***, which ***C*** wins 5 to 4, for a second round of ***C*** v ***B***, ***B*** will win 6 to 3.

In summary, if ***A*** is more popular than ***B*** which is more popular than ***C*** which is more popular than ***A*** which… which goes round and round for ever – it’s called a ‘cycle’ or ‘the paradox of [binary] voting’ – the answer could be anything! The agreement succeeds; a ‘no deal’ succeeds; a second referendum succeeds; every idea could succeed. So the whole process is open to manipulation.

Majority voting therefore is no good.  OK, try multi-option voting.

1. In plurality voting (like the UK’s first-past-the-post electoral system), the option with the most 1st preferences, in this case ***A*** with 4, is the winner.

But, like binary voting, this methodology considers only the voters’ 1st preferences.

1. With the two-round system, TRS, (as in French elections), if no one option gets an absolute majority in the first round, the two leading options – in the above example, ***A*** on 4 and ***C*** on 3 – go into a second round majority vote, which ***C*** will win by 5 to 4.
2. With the alternative vote, AV, (which Australia uses), the least popular option ***B*** is eliminated and its 2 votes go to ***B***’s voters’ 2nd preference, option ***C***, and so ***C*** will win this count as well; again it’s ***C***’s 5 to ***A***’s 4.

But both AV and TRS consider only some of the voters’ 2nd and subsequent preferences. In the above example, ***B***’s six 2nd preferences are not even counted!

1. Or there is a points system (as in part of Slovenia’s electoral system)  —  in our example, a 1st preference gets 3 points, a 2nd gets 2 and a 3rd gets 1  —  to give scores of ***A*** 18, ***B*** 19 and ***C*** 17, so the winner is now ***B***.

And this methodology takes into consideration *every* preference cast by *every* voter.

So if, as was suspected, the answer should have been ***B***, then maybe the fairest system is this preferential points system. Granted, it is 800 years old, but it’s a bit more modern than plurality voting, which was invented 1,900 years ago, let alone the most primitive majority vote, which goes back to the ancient Greeks and Chinese.

Justine Greening MP likes AV; Professor Vernon Bogdanor seems to favour TRS; but logically, the most accurate – and therefore the most democratic – voting procedure seems to be this preferential points system. It is called a modified Borda count, MBC, and in a ballot of *n* options…

* he who casts only one preference gives his favourite just 1 point;
* she who casts two preferences gives her favourite 2 points {and her 2nd choice 1 point};

and so on; so

* those who cast all *n* preferences give their favourite *n* points, {their 2nd choice (*n-1)* points, their 3rd option *(n-2)* points, etc.}.

The difference is always 1 point. There is no especial weighting. If cast, a voter’s (x)th preference always gets just 1 point more than their (x+1)th preference, regardless of whether or not they have cast that (x+1)th preference;.

In a nutshell,

* those who abstain have no influence on the final decision,
* those who submit a partial ballot have a partial influence,
* and those who submit a full ballot have a full influence.

At best, the outcome of an MBC ballot is the option which has the highest average preference of everybody. At a time when the nation is split, it would seem an inclusive MBC offers the fairest way to resolve this wretched Brexit business: a second referendum, a preferential ballot on all three options, with a voting procedure which inherently encourages every voter to submit a full ballot (and thereby to recognize the validity of other aspirations).

Majority voting is divisive; the MBC is inclusive, robust and, as long as the options are chosen by an independent authority, accurate.

Politics, they say, is the art of compromise; the MBC is its science.

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