**PRESS RELEASE**

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**A LESSON OF BREXIT**

**MAJORITY VOTING MAY SOMETIMES PRODUCE AN INCORRECT OUTCOME**

Consider a parliament of just three MPs with the following preferences on options ***A, B, C*** and ***D***.

|  |  |
| --- | --- |
| Preferences | The MPs |
| Ms *i* | Mr *j* | Ms *k* |
| 1st | ***C*** | ***A*** | ***B*** |
| 2nd | ***A*** | ***B*** | ***D*** |
| 3rd | ***B*** | ***D*** | ***C*** |
| 4th | ***D*** | ***C*** | ***A*** |

There’s no majority for anything, so parliament decides to take a series of majority votes. First things first:

***A v B***? Ms *i* and Mr *j* both prefer ***A*** to ***B***, so ***A*** wins, 2 to 1. Next?

***A v C***? The two women both prefer ***C*** to ***A***, so ***C*** wins. And finally,

***C v D***? Well, Mr *j* and Ms *k* both prefer ***D*** to ***C***, so ***D*** wins. Again, 2 to 1. So ***D*** is the answer, by a majority of 67%! “Consensus,” they will proudly say. But hang on: all three MPs prefer ***B*** to ***D***.

So ***D***, as the outcome, is wrong! It should be ***B.*** Therefore, in a multi-option debate, the outcome of a parliamentary majority vote on any one single option – “***C***, yes or no?” – or any one pair of options – “***B*** or ***D***?” – may not be an accurate assessment of ‘the will of parliament’. Indeed, it might be wrong.

The more accurate procedure is preference points voting. In the above example, while a plurality vote is an ***A-B-C*** tie on a score of 1 each, a Borda\* count produces a winner, option ***B*** on 9 points, and a social ranking of ***B-A-C-D*** on 9-8-7-6 points.

\* In the original but now called Modified Borda Count, MBC, in a vote on *n* options, a voter may cast *m* preferences – (and obviously, *n ≥ m ≥ 1*) – and in the count, a voter’s 1st preference gets *m* points, their 2nd preference gets *m-1,* and so on. The winner is the option with the most points. What’s more, with an MBC, there always is an outcome, a complete and accurate social ranking.

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