**DECISION-MAKING**

**REPORT OF AN EXPERIMENT UNDER THE AUSPICES OF OGP IRELAND**

**8th August, 2013**

In any democratic process, all concerned or their representatives should be able, not only to vote on any relevant options, but to participate in choosing just which and how many options should be on the corresponding ballot paper.

For the purpose of our own exercise, which was to show how a modified Borda count, MBC, actually works, it was decided to vote on the topical question of a minimum age for presidential candidates, and the following options were chosen (without a debate): 21 years old, 25, 30, 35 (the status quo) and 40. These were arranged into a random order and presented to participants of the OGP Ireland’s consultation of Aug 8th. The resulting voters’ profile was as shown below, the summation of 19 full and 3 partial ballots.[[1]](#footnote-1)

**Table 1 The Voters’ Profile**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OPTIONS | PREFERENCES | | | | |
| 1ST | 2ND | 3RD | 4TH | 5TH |
| A | 1 | 5 | 5 | 2 | 6 |
| B | 9 | - | - | 1 | 12 |
| C | 7 | 5 | 1 | 5 | - |
| D | 4 | 3 | 12 | 1 | - |
| E | - | 7 | 2 | 10 | 1 |

At first glance, it would seem that option A is not very popular; that option B is highly divisive; that C has the most overall support; that D may also be broadly acceptable; and that E is another divisive option, albeit less extreme than B. The social choice, therefore, is probably option C; and the social ranking, the prioritisation, is probably C and then D, followed at some distance by A, B and E in as yet unknown order.[[2]](#footnote-2)

In analysing the levels of support for these options, different voting procedures produce different answers. Plurality voting only considers the 1st preferences and so often gives an inaccurate answer; the two-round system of voting, (TRS), and the alternative vote, (AV), are based respectively on one and on a series of plurality votes, so these may also produce dubious outcomes; approval voting[[3]](#footnote-3) considers a certain number of cast preferences as ‘approvals’ and the current analysis assumes that all of them are a measure of support; of the methodologies tested, only the MBC takes account of all preferences cast by all voters – it is not surprising, therefore, to find that it is the most accurate.[[4]](#footnote-4)

**Table 2 The scores under the various methodologies**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MAJORITY/  PLURALITY | AV or STV  TWO-ROUND | APPROVAL  VOTING | MBC |
| A | 1 |  | 19 | 50 |
| B | 9 | 9 | 22 | 51 |
| C | 7 | 12 | 18 | 70 |
| D | 4 |  | 20 | 68 |
| E |  |  | 20 | 53 |

From these Table 2 scores, both the social choice and the social ranking of the given electorate can be identified, according to the four/five methodologies tested. First, then, the social choice as per the five given methodologies.

**Table 3 The Social Choices**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MAJORITY/  PLURALITY | AV (STV)  or TRS | APPROVAL  VOTING | MBC |
| A |  |  |  |  |
| B | 1 |  | 1 |  |
| C |  | 1 |  | 1 |
| D |  |  |  |  |
| E |  |  |  |  |

And secondly, the three social rankings as and when they are identified; (both AV and TRS do not identify social rankings).

**Table 4 Social Rankings**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MAJORITY/  PLURALITY | AV (STV)  or TRS | APPROVAL VOTING | MBC |
| A | 4 |  | 4 | 5 |
| B | 1 | 2 | 1 | 4 |
| C | 2 | 1 | 5 | 1 |
| D | 3 |  | 2= | 2 |
| E | 5 |  | 2= | 3 |

**Conclusions**

The disparity in the social choice outcomes, (table 3), and the *huge* disparity in the social rankings, (table 4), suggest that some methodologies can be very inaccurate. In contrast, as shown in this (and many other) instance(s), the MBC is an accurate measure of both the social choice and the social ranking;[[5]](#footnote-5) it is, therefore, a suitable methodology both for decision-making and for prioritisations.

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1. There was also one spoilt vote. [↑](#footnote-ref-1)
2. Only 19 persons cast a preference for option A, whereas 20 voted on E and 22 on B; which explains why, in the final analysis, A came below both E and B. [↑](#footnote-ref-2)
3. Sometimes known as posits or sticky dots. [↑](#footnote-ref-3)
4. It should also be noted, of course, that persons may vary their preferences if the voting procedure is to change. In this exercise, those concerned were asked to vote as if in an MBC. [↑](#footnote-ref-4)
5. Another accurate methodology is the Condorcet rule. [↑](#footnote-ref-5)