Majority rule and unamity rule comparison

After 60 years of uninterrupted reign over Malaysia, the ruling National Front coalition suffered its unprecedented general election defeat on 9 May 2018. It was widely believed that the change was driven by misuse of public resources as the incumbent leader siphoned billions of tax payers' money via a state-owned investment fund. By electing a new government, can the majoritarian choice ensures an improved efficiency of public tax-spending decision? This essay sought to offer a fair analysis that covers both pros and cons of majority rule[1](MR) and unanimity rule (UR), followed by a discussion on their real-world application. The conclusion here is simple: no preference rule is perfect.

MR raises overall welfare but it is inefficient in delivering public goods

Empirical evidence shows that democratisation increases long-run GDP by about 20-25% (Acemoglu et al, 2014). Growth was raised via several channels including higher investment in primary schooling and better health, lower social unrest, greater taxation and public good provision. This is consistent with the prediction made by the median voter theorem (MVT) on how suffrage causes politicians to be more likely to engage in public goods provisions under MR. Enfranchisement determines the identity of median voter which ultimately affects public tax-spending decision in a unidimensional policy space, as two political parties compete by taking the position at the centre of the single-peaked distribution of voters' preferences. Public spending therefore suits the needs of the median voter as support-maximising politicians respond to perceived changes in the distribution of electorate (Downs, 1957; Meltzer and Richard, 1981).

Yet, MVT also indicates that the equilibrium does not result in an efficient supply of public goods because public goods and tax rate will always be that preferred by the voter whose income is the median in society while the cost is shared equally by all voters[2]. Since income distribution is always skewed to the right (i. e. mean is higher than median), public goods would usually be oversuppliedas citizens below the mean income, which forms the majority, would want higher public spending and high tax rate, knowing that they pay smaller share of the cost and get to enjoy same the benefits.

Inherent weaknesses in MR

The idea behind MR is to reach efficient non-market decisions by maximising self-determination through the laws that one consents to. In any conflict of interest, majoritarian solution ensures more people ' get their way' than people who do not, which in turn increases the overall welfare of society. Kenneth May (1952) offered a normative argument for simple MR as the only preference aggregation rule that is fair. In choosing between two social choices, May's theorem shows that simple MR uniquely satisfies four conditions of decisiveness (society always makes a unique choice), anonymity (all voters are treated the same way), neutrality (all choices are treated the same way), and positive responsiveness (if the outcome was a tie and one or more voters change their votes, then the tie is broken in the direction of change).

However, May's Theorem assumes that voters' preferences are single-peaked and only two options to be chosen. In real world, voters' preferences are multipeaked as voters are heterogeneous with diverse policy preferences

that could be intertwined with economic, cultural and ideological reasons. Furthermore, voters are typically required to vote over combinations of public goods, and have more than two candidate choices. Under such situation, Arrow's Impossibility Theorem proves that it is impossible to have a preference aggregation rule that simultaneously satisfies five conditions required for a fair electoral system:

- Independence of irrelevant options: Society's choice between A and B should depends only on how individuals rank A and B, and no other information;
- Non-dictatorship: Collective ranking should not be determined by one individual;
- Pareto criterion: If everyone prefers A to B, then society prefers A to B;
- Unrestricted domain: Any individual ranking over alternatives is permissible;
- Transitivity: If A is preferred to B, and B is preferred to C, then A is also preferred to C.

In a pairwise voting procedure for three choices, majority voting can only reach a stable equilibrium by forgoing transitivity or non-dictatorship condition. Hayden (1995) further argued the fact that society cannot eliminate the transitivity condition in real world means non-dictatorship condition must be forgone. Hence, individual or group that controls the agenda can effectively dictate the social choice as long as alternative within voting cycle can be presented at an opportune time. Such theoretical implication implies that policymakers have room to frame and time policy questions to their advantage.

Proponents of MR believe that there is wisdom in the crowds. Under the Condorcet's Jury theorem, majority voting is more likely than not to produce the right answer to political questions. However, imperfect information or its asymmetries is endemic in reality which create scope for politicians to exercise Machiavellian manipulations. Under informational constraints, voters may make suboptimal choice as they cannot easily observe and compare policy proposals and contribution made by politicians, nor fully comprehend relationship between policy and their own welfare. Such problem is exacerbated by the fact that people may face cognitive difficulty during economic stress. A research on sugarcane farmers in India by Mullainathan and Shafir (2012) found their samples experienced dramatic drop in IQ levels when they have less money in hand before the harvest season. Rationality in political decision making process can also be weakened by practices designed to optimise the polling advantage. Availability of detailed voter data and better social media technology enable campaigners to construct digital messaging that exploit voters' vulnerabilities and psychological inclinations.

Moreover, MVT disregards the role of money as a tool of influence in elections, which is far from realistic as politicians seek rents and special interest groups lobby for narrowly targeted policies by providing campaign funding, often at the expense of society welfare (Baron, 1994; Grossman and Helpman, 1996). Cross-country evidence of political budget cycles in both developed and developing countries indicates that government spending increases before elections while revenues fall, leading to a larger deficit in election years (Shi et al, 2002).

Is UR better? Probably not

Another flaw in MR is that, it ignores the intensities of (dis)utilities of voters. In the words of Gordon Tullock (1959):

" *A man who is passionately opposed to a given measure and a man who does not much care but is slightly in favour of it are weighted equally. Obviously, both could very easily be made better off if the man who felt strongly were permitted to give a present to the man who had little preference in return for a reversal of his decision.*" (p. 572)

This defect indicates that MR fail in optimising pareto efficiency[3]. Welfare of the minorities could then be at risk when they are always on the losing side as every vote is treated equally. In contrast, UR is Pareto-improving as it guarantees that only desirable projects are implemented. Indeed, on theoretical basis, UR might appears to be superior in terms of inclusivity and could yield no-loser outcome. But UR imposes high decision-making cost when no collective decision could be made if it renders any individual worse off. Such drawback encourages opportunism as any participant could hold out for a better deal (by vetoing) at the expense of others. While a decision can still be made under UR if the gainers are willing to compensate the losers, the quantification and verification of losses can be challenging. Problem gets worse when such asymmetric information incentives gainers to report losses, and extort efficiency from public spending.

Which method is better?

The short answer is: it really depends. Consider a simplified scenario below, whereby each result has its own pros and cons. Of course, there are other considerations that could alter the results, such as the identity of voters, sunk costs and degree of political influences of stakeholders involved. But the key point is that, question on which method to use ultimately boils down to how societies value public goods, and interaction dynamics between policymakers and the society (i. e. credibility of government, citizens' information-processing capability). The presence of heterogeneity and multipeaked preferences are naturally unsolvable. In a pragmatic sense, different people will always have varying levels of utilities when consuming public goods. In the context of tax-spending choices, the practical consequence of theories discussed is obviously far more complex in reality. There are many macroeconomic and demographic factors that explicitly affects tax-spending decisions. Besides, societies do not use a single, consistent method to make collective choices.

New Malaysian

government blames

previous

government for

spending too much

on infrastructure

project and plan to

suspend a rail

project

Option 1: Forced

suspension without

compensation

UR: No outcome if

one investor or

contractor disagrees

MR:

- Pass if

  government

  frames the

  issue as

  detrimental to

  fiscal health

  and citizens

  trust it.

  Outcome is

  pareto-

  inefficient.
- No outcome if

  average social

  benefit of

  project is

  higher than

  average cost

  of project.

Option 2:

Suspension with compensation which will be financed with taxation

UR: Most likely pass but comes with high costs.

MR:

- No outcome because low income electorates, which forms a large share of population are not willing to pay.
- Pass if average perceived social benefit of fiscal savings is higher than average cost

of

compensation.

Outcome is

pareto-

inefficient.

Conclusion

In conclusion, no preference aggregation method is perfect. A comprehensive decision-making process hinges on the valuation of public goods within a society, and interaction dynamics between policymakers and the society. The argument here is two-fold: Firstly, MR enhances overall welfare but it also leads to inefficient tax-spending decision. Secondly, MR has its disadvantages but so does UR. MR maximises fairness but its inherent weaknesses render it prone to manipulation. UR optimises pareto efficiency but involves high decision cost.

Perhaps what has MR meaningfully contributed is its catalyst role in establishing political competition and ensuring citizens receive access to public goods. In a narrower perspective, the *composition* of public goods should also considered in assessing the usefulness of MR. This aspect becomes more crucial considering one of the core arguments against MR lies at the eventual size of government and its resulting egalitarian element. And certainly, one could hardly dismiss education as a critical public good[4]in stimulating economic development and ensuring political stability. Education as a public good enhances political maturity by fostering political

participation and a collective sense of civic duty that transcends societal

differences, and strengthen monitoring mechanisms.

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[1]It is perhaps important to highlight that the discussion here focuses on MR. Although MR does capsulises the most basic principles of democracy but in technical sense, it refers to method of aggregating voters' preferences while democracy describes a system where voters are allowed to participate in the decision making process.

[2]In this Downsian Model, government is assumed to have no information about individual marginal benefit function and therefore use equal cost-sharing rule to finance the provision of public goods. It can also be said that efficiency requires average marginal benefit of public consumption to be equal to the average marginal cost (tax).

[3]The problem of intensity of preference can arguably be solved by using logrolling (i. e. vote-trading) which is common in the legislative body. Nonetheless, the mechanism could cause wasteful spending and allow wasteful programmes to be passed (Mikesell, 2018 p. 36).

[4]In an extensive study of 100 countries over 40 years, Ansell (2010) found that democratisation raises total educational spending as a share of government budget.