THE TYRANNY OF THE SUPERMAJORITY

HOW MAJORITY RULE PROTECTS MINORITIES

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ABSTRACT

This article demonstrates that majority rule offers more protection to the worst-off minority than any other system in that it maximizes the ability to overturn an unfavorable outcome. It is known (May, 1952; Dahl, 1956) that majority rule is the only decision rule that completely respects political equality. However, it is frequently argued that other decision rules (such as a system of checks and balances, which are implicitly supermajoritarian) better serve the goals of protecting minorities' rights and preserving stability. This article argues that this trade-off is illusory and that majority rule actually provides most protection to minorities. Furthermore, it does so precisely because of the instability inherent in majority rule, which overcomes the problem of majority tyranny.

KEY WORDS ● democratic theory ● majority ● minority protection

This article demonstrates that majority rule is the decision rule that provides most protection for the worst-off minority. Dahl (1956, 1988) argues that the values of popular sovereignty and political equality dictate the use of majority rule. However, there are other values that we need to take into account besides popular sovereignty and political equality, notably the protection of minority rights and stability. Thus, it is commonly argued that there is a trade-off between political equality (maximized by majority rule) and minority protection (better provided by systems with external checks and balances, which require more than a simple majority to enact legislation). This article argues that this trade-off does not exist and that actually majority rule provides most protection to minorities. Furthermore, it does so precisely because of the instability inherent in majority rule.

Majority rule is the only decision rule that completely satisfies political equality. May (1952) shows that majority rule is the only positively responsive decisive voting rule that satisfies anonymity (all voters are treated equally) and neutrality (all alternatives are treated equally). If we use a system other than majority rule, then we lose either anonymity or neutrality. That is to say, either some voters must be privileged over others or some alternative must be privileged over others. With supermajority voting, the status quo is privileged – if there is no alternative for which a supermajority votes, the status quo is maintained. Following Rae's (1975) argument, given that the status quo is more desirable to some voters than to others, some voters are effectively privileged. It is certainly the case that supermajority rules can privilege (protect, if you prefer) some voters. Unfortunately, it is not possible to privilege every group over every other group. If supermajority rules create a privileged group, there must be a corresponding under-privileged group.

Nevertheless, supermajoritarian decision rules are widespread, both explicitly and implicitly. For example, in the United States explicitly supermajoritarian rules exist in the form of the 60 percent closure requirement to end a filibuster in the Senate, the two-thirds requirement to override a presidential veto and in the need for a supermajority to amend the Constitution (see Krehbiel, 1998). Implicitly, the existence of two legislative chambers with different bases of representation is supermajoritarian, in that more than 50 percent of the popular support is likely to be needed to ensure a majority in both chambers. The committee system has a similar effect to the extent that committees are able to act as 'gatekeepers', able to hold up consideration of legislation. Outcomes decided by judicial review also rest on a supermajoritarian basis, in that constitutional amendments require a supermajority. The number of democracies with simple majority rule legislatures with few external checks is actually quite small, limited mostly to the small countries of Europe.

Such supermajoritarian decision-making rules have been justified in terms of the need to protect minorities from 'the tyranny of the majority'. In the United States, this argument is associated with James Madison (perhaps inappropriately, I will argue) and John C. Calhoun. Buchanan and Tullock (1962) provide a formalization of this line of thought, arguing that the unanimity rule maximizes the protection of individual rights and economic efficiency and that supermajoritarian rules are a second-best approximation to unanimity. Guinier (1994) also argues that supermajoritarian voting can protect minorities.

In contrast, this article shows formally that as we move from majority rule towards unanimity, the ability of minorities to defend themselves by overturning unfavorable outcomes is diminished and that, therefore, majority rule offers most protection. The proof assumes that groups do not know

how they will fare under the status quo in the future and, in particular, whether their interests are more likely to be threatened by government action or by some other force or event that requires government action to protect against. In cases where we are exceptionally sure that the status quo is just and protective of all minorities (perhaps juries or the fundamental rights required for democracy to function), it can be argued that supermajoritarian decision-making rules may provide more protection, although even here the argument is not obvious.[1] However, in the case of 'continuing politics', such as regular legislation and policy-making, it will be argued that we cannot know what the status quo will be in the future and that, therefore, our argument that majority rule provides most protection for minorities applies.

Before proceeding two clarifications are needed. First, majority rule should not be equated with single-member district plurality (first-past-the-post) electoral systems. Majority rule is a rule for choosing between two alternatives, where the alternative with most votes is chosen. In representative democracies, majority rule is used to decide between alternatives before the legislature, usually using an amendment procedure. There is no reason why those legislators cannot be elected by proportional representation (PR). Indeed if the reason for adopting majority rule in a legislature is to maximize political equality, proportional representation is the natural system to elect the members of that legislature. As van der Hout (2002) shows, if an electoral system satisfies anonymity, neutrality and some technical requirements, it must produce results similar to list PR. It is unfortunate that the term 'majoritarian' is in widespread use following Lijphart (1984) to refer to the 'winner-take-all' arrangements typical of the British 'Westminster' system of government. It is ironic that the some of the countries that most closely approximate majority rule in their legislatures are those that Lijphart characterizes as 'consensual' democracies, such as The Netherlands, Sweden, Denmark and Norway.

Second, majority rule does not mean that there is necessarily one particular majority that rules. One of the central findings of social choice theory is that majority rule is unstable and prone to cycles (i.e. situations where alternative

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1. Dahl (1956, 1988), for example, argues that there is no evidence that minority rights are better protected in the United States than in European democracies with far fewer checks and balances. Furthermore, it could be argued that if a majority did not support fundamental rights, no constitutional system could protect them, as the constitution would simply be discarded. The German Weimar Republic, after all, had an extremely elaborate system of checks and balances but these failed to prevent the rise of Hitler and may have even contributed to it by making it easy for anti-democratic parties (Nazis and Communists) to create gridlock while still in a minority.

a beats b, b beats c, but c beats a).[2] Similarly majority rule is prone to cycling coalitions. Because of this, it is often unwise under majority rule to try to rule with a minimal winning coalition and exclude everyone else. If a group is excluded from the winning coalition, they can attempt to split the winning coalition by offering some of its members more favorable terms than they are currently receiving. This does not mean that we will necessarily observe cycling in practice, as the possibility of cycling coalitions may well deter groups from seeking to exclude other groups completely. Under majority rule it is quite possible – indeed likely – to see broad coalitions and norms of inclusive, consensual decision-making.[3] In a similar vein, Dahl (1956) argues that in a polyarchy we will not see the tyranny of the majority, because a single, permanent, cohesive majority will not exist.

The first section of this article will review the literature on supermajoritarian decision-making. The second will illustrate how supermajoritarianism can produce perverse results. The third section will formally analyze the logic of supermajoritarian decision-making. The fourth will present the proof that majority rule offers the greatest protection to minorities. Section 5 considers the effect of uncertainty about the future on these considerations, while Section 6 deals with the instability of majority rule resulting from cycling and why this is essential to the protection of minorities.

1. Supermajority Rule and Democracy

The theory that checks and balances are needed to restrain majority rule (thus producing a system that is effectively supermajoritarian) is frequently ascribed to James Madison. However, as Rae (1975) and Kernell (2003) argue, ascribing such a view to Madison is problematic, given that Madison sought a strong national government, capable of decisive action and able to overcome the immobilism of the Articles of Confederation.[4] As we are all

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2. This assumes that preferences are multidimensional. This will be the case if preferences are 'pluralistic' or 'cross-cutting' in the manner of Miller (1983) and cannot be completely reduced to a single dimension of choice.

3. For example, in the US Congress winning coalitions tend to be far larger than even the required supermajorities (Krehbiel, 1998). Weingast (1979) suggests that a norm of universalism, as opposed to minimal winning coalitions, is the optimal solution to the majority-rule game facing members of the US House of Representatives. Groseclose and Snyder (1996) provide a model of Congressional logrolling that suggests that winning coalitions will tend to be far larger than simple majority.

4. See Madison's remarks to the Constitutional Convention on 19 June 1787 (Madison (1840/1966) and 'Vices of the Political System of the United States' (Madison, 1999).

familiar from *Federalist* 10, Madison identifies the problems of minority and majority tyranny. The republican principle (i.e. majority rule) protects against minority tyranny. However, the only solution to majority tyranny given in *Federalist* 10 is to have a large 'extended republic' where a single cohesive majority would not exist, a solution completely compatible with majority rule.[5] It is not until *Federalist* 51 that Madison advocates external checks and balances, in the context of a president elected independently of Congress. It is notable that Madison did not support an independently elected president at the Constitutional Convention until mid-July 1787, immediately after he had lost the argument about equal representation for the states in the Senate. Indeed, the original Virginia plan presented to the Convention, authored primarily by Madison, was essentially a majority rule parliamentary system with the executive chosen by the legislature. At the Constitutional Convention, Madison argued against many of the constitutional features we now consider 'checks and balances'.[6] Furthermore, Madison clearly opposed the principle of supermajoritarianism (arguing that it reversed the principle of free government and equaled minority rule), as the following section from *Federalist* 58[7] demonstrates:

> It has been said that more than a majority ought to be required for a quorum; and in particular cases, if not all, more than a majority of a quorum for a decision. That some advantages might have resulted from such a precaution cannot be denied. It might have been an additional shield to some particular interests, and another obstacle generally to hasty and partial measures. But these considerations are outweighed by the inconveniences in the opposite scale. In all cases where justice or the general good might require new laws to be passed, the fundamental principle of free government would be reversed. It would no longer be the majority that would rule: the power would be transferred to the minority. Were the defensive privilege limited to particular cases, an interested minority might take advantage of it to screen themselves from equitable sacrifices to the common weal, or, in particular emergencies, to extort unreasonable indulgences. (p. 361)

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5. On 6 June at the Federal Convention, Madison argued that extending the scope of the republic was the *only* way to protect minorities:

> In a Republican Govt. the majority if united have always an opportunity. The only remedy is to enlarge the sphere, and thereby divide the community into so great a number of interests and parties, that in the first place a majority will not be likely at the same moment to have a common interest separate from that of the whole or of the minority; and in the second place that in case they should have such an interest, they should not be apt to unite in the pursuit of it. (Madison, 1840/1966: 77)

6. Madison most famously opposed equal representation of the states in the Senate. However, he also championed the supremacy of the national government over the states (including a national veto on all state legislation), supported a simple majority over-ride of judicial review and opposed the prohibition of legislators taking executive posts.

7. See also *Federalist* 22 (authored by Hamilton).

Madison gives us, at best, an ambiguous justification for restraining majority rule with checks and balances; according to Rae (1975), it is John C. Calhoun (1842/1982, 1850/1943) who gives us an unequivocal theory. Society is made up of various classes of people, any of which may wish to intrude on the rights of others. A system of 'concurrent majorities', whereby the approval of a majority of each class is required for action, can prevent this from happening. Calhoun argues that various features of the US Constitution (most notably equal representation for the states in the Senate) embody this principle. Indeed more recent scholars, such as Weingast (1998) and Aldrich (1995) have analyzed the way in which institutions such as North–South parity in the Senate and the norm of ticket balancing by the parties essentially provided the southern states with a veto until the 1850s.

Dahl (1956) is critical of what he terms the 'Madisonian' theory of democracy (essentially the view that checks and balances are required to restrain majority rule). Madison relies on majority rule to protect against minority tyranny. Dahl argues that in cases where positive government action is required to protect rights, restraining majority rule with checks and balances undermines this protection. (Ironically this echoes the argument made in the section from *Federalist* 58 cited earlier.) Furthermore Dahl argues that there is no empirical evidence that rights are better protected by the American political system than by European constitutions with far fewer constitutional checks; and that institutions such as the filibuster, equal representation in the Senate and judicial review have been used far more frequently to frustrate the extension of fundamental rights than to protect them, most notably in the case of civil rights in the South.

Buchanan and Tullock (1962) provide a different justification for supermajoritarianism. Given a predetermined allocation of rights and property,[8] the decision-making rule that best protects this allocation is naturally unanimity. Furthermore, unanimity is the only rule that guarantees that the outcome will be economically efficient in the sense of being pareto-superior (it is not possible to make anyone better off without making someone else worse off) to the status quo. If unanimity is impossible because of decision-making costs, supermajoritarian rules may be the second best solution, in that they provide more protection than majority rule against costs imposed by society on individuals.

Rae (1975) critiques Buchanan and Tullock on several grounds. Unanimity only minimizes the costs society imposes on individuals if we make the

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8. It is notable that Buchanan and Tullock (1962: 47) do not state how these rights come about but merely state that 'it will be useful to "jump over" the minimal collectivization of activity that is involved in the initial definition of human and property rights and the enforcement of sanctions against violations of these rights'.

strong assumption that an unwanted policy imposes a far greater cost on individuals than not getting a policy that is needed. Rae (1969) shows that if we assume these costs are equal, majority rule is optimal. Furthermore, Rae (1975) criticizes the concept of pareto optimality as essentially locking in the status quo and being blind to distributional considerations.[9] Most significantly, Rae shows that universal consent is logically impossible when a decision (even if it is to take no action) has to be taken. If there is disagreement and a decision has to be taken, some decision has to be imposed against someone's will.

From a rather different political perspective, Guinier (1994) also argues that supermajoritarian voting may protect minority rights. This is somewhat ironic given that supermajoritarian rules, such as the filibuster in the Senate, have been historically employed to obstruct civil rights legislation. While Guinier is certainly correct to point out that supermajoritarian decision rules are widespread, it is not clear that the exclusion of minorities Guinier seeks to remedy results from majority rule, as much as from certain winner-take-all institutions such as single-member district elections. (Guinier is supportive of proportional representation.) Miller (1996) provides a social choice theoretic analysis of Guinier's claims.

Our thinking about majority and supermajority rule has been considerably sharpened by formal social choice theory. As already noted, May (1952) shows that majority rule is the only positively responsive decisive decision rule satisfying anonymity and neutrality. In a similar vein, Rae (1969) and Taylor (1969) show that majority rule is the decision rule that minimizes the probability that an agent votes for something that is not enacted or votes against something that is. Straffin (1977) shows that majority rule is the decision rule that maximizes responsiveness to individual preferences. Social choice theory has demonstrated that majority rule is prone to cycles (Condorcet, 1788/1955; Plott, 1967; McKelvey, 1976, 1979; Schofield, 1978). However, Miller (1980) and McKelvey (1986) show there are strict limits to majority rule cycling under normal institutional settings; and Miller (1983) argues that the instability produced by cycling may actually be beneficial to systemic stability by assuring that there are no permanent losers.

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9. Rae quotes Sen (1970):

   An economy can be optimal in this sense even when some people are rolling in luxury and others are near starvation as long as the starvers cannot be made better off without cutting into the pleasures of the rich. If preventing the burning of Rome would have made Emperor Nero feel worse off, then letting him burn Rome would have been Pareto-optimal. In short, a society or economy can be Pareto-optimal and still be perfectly disgusting.

Although it is tangential to our concerns here, there is some literature on the effect of supermajoritarian rules on economic outcomes. As noted, Buchanan and Tullock (1962) argue that only unanimity guarantees economic efficiency. Barry (1965), however, argues that the use of the 'offensive veto' may lead to economic inefficiency – groups with veto power may try to use that veto to extort privileges, which may lead to worthwhile projects not being undertaken. Moe (1989) argues that supermajoritarian institutions in Congress lead to inefficient bureaucracies, in that bureaucratic structures are designed not to maximize the performance of an agency but to lock in the gains of the winning coalition and prevent future Congressional majorities and administrations from being able to change the goals of the agency. Similarly, Scharpf (1988) argues that the supermajoritarian nature of German cooperative federalism produces inefficient policy. Huber et al. (1993) find that the presence of external checks and balances have a considerable effect on the size and type of welfare state a country adopts.

2. Pathologies of Supermajority Rule

Using some simple examples, we can illustrate some of the problems that supermajoritarian rules can produce. Such rules can lead to the complete exclusion of minorities, to immobilism where the status quo is impossible to challenge, to situations where ideologically concentrated minorities are advantaged over more dispersed majorities and even to situations where points at the very extremes are strategically defended by blocking coalitions.

Consider the situation depicted in Figure 1. There are eight voters with simple spatial utility functions (they each prefer outcomes closer to their ideal point). Three have ideal points at position a, three at position b and two at position c. Under majority rule five votes are required to defeat a proposal and, thus, there is no core (a proposal or set of proposals that cannot be defeated). For any proposal it is possible to find a counter-proposal that at least five voters prefer. However, the voters at positions a, b and c have
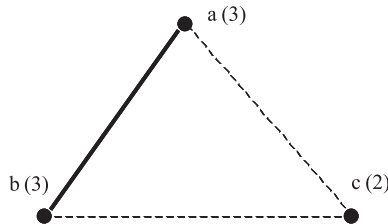

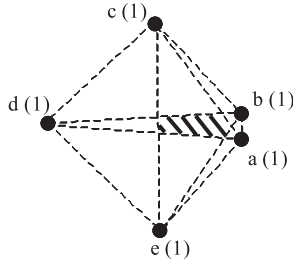**Figure 1.** Configuration of Eight Voters

Figure 2. Configuration of Five Voters

equal bargaining power in determining the outcome. When we move from majority rule to supermajority rule, this changes. If we adopt a super-majoritarian quota of six to pass a proposal, the full line between positions a and b becomes the core. It is impossible to find a counter-proposal that six voters prefer to a point on the line between a and b. As a result, the voters at c lose all bargaining power and influence over the outcome. If we increase the quota from six to seven, then any point in the triangle abc will be a core point. We may characterize this situation as a 'tyranny of the status quo'. As long as the status quo is within abc, it cannot be changed. Whoever had influence when the status quo came to pass has their way. Thus, we can show that it is at least possible that adopting supermajoritarian rules may severely harm the interests of minorities, compared to their position under majority rule.

Of course, supermajoritarian rules can advantage certain minorities. Certainly a very high quota will advantage minorities that are favorable towards the status quo. Furthermore, supermajoritarian rules may advantage ideologically concentrated minorities. Consider Figure 2. Here there are five voters, at positions a, b, c, d and e. Under majority rule ($q = 3$) there is no core. In terms of bargaining power, the voters at a and b might have an advantage, in that they can join with any other voter to form a majority but they are not able to impose their will on the others. However, if we increase the quota to four, then the shaded area becomes the core. The influence of one minority (the two voters at positions a and b) has increased but at the expense of the smaller minority positions (c, d and e). Thus, we would expect supermajoritarian rules to benefit minorities who are large and concentrated enough to form blocking coalitions at the expense of smaller and less concentrated minorities.

Figure 3 (which is based on Laing and Slotznick [1987] illustrates an even more problematic situation that can arise under supermajoritarian rules. Here status quo point S may be impossible to overturn with a voting quota
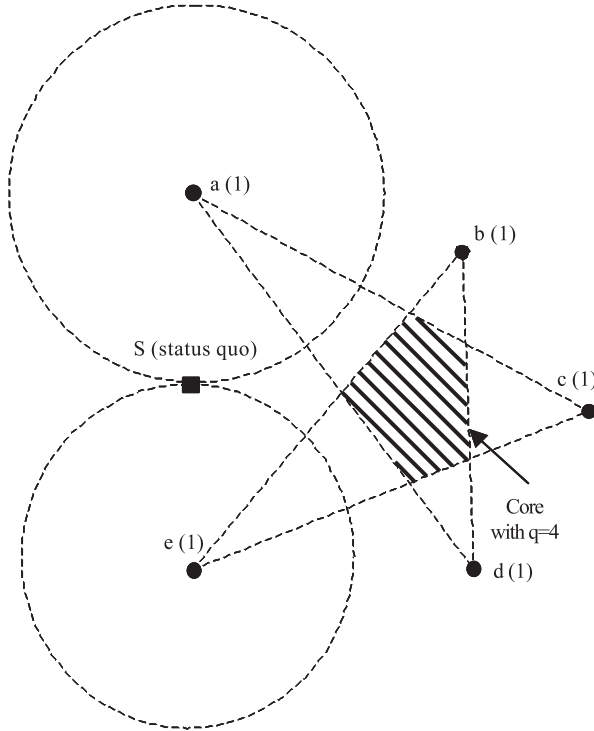
Figure 3. Configuration of Five Voters with $q = 4$ and Status Quo Point S

of four, even though it is not in the core.[10] If we have a supermajoritarian rule with a quota of four, then the shaded area in the figure is the core. If a point in the core is the status quo, it will be impossible to overturn it. However, if we start from status quo point S, it may be that we never get to the core. This is because voters a and e form a blocking coalition. There are points that four voters would prefer to point S. However, there is no point in the core that either voter a or e prefers to the status quo, as can be seen from the fact that the iso-utility curves of a and e do not intersect the core. As a result it may be strategically rational for a and e to block any attempt to move

10. Here the term core is used differently from Laing and Slotznick (1987). Here the core is defined as the set of points that cannot be defeated under the q-rule. This is equivalent to the set of points that cannot be overturned if that point is established as the status quo. Laing and Slotznick define the core as the set of points that are undefeated under the q-rule and dominate the current status quo. The definition of core used here is equivalent to Laing and Slotnick's 'heartland'.

from the status quo. Although there are points that they prefer to the status quo, if these are adopted, this may lead to the adoption in the next round or later of core points that voters a and e do not prefer to the status quo S. In an experimental setting, Laing and Slotznick (1987) confirm the existence of this phenomenon. The situation here may appear familiar. A blocking coalition defends a status quo that some of its members might like to change, because it fears that if it allows change, this will 'open the floodgates' to further changes that it views as undesirable.

3. Analyzing Supermajority Rule

We have seen that supermajoritarian rule can have some problematic effects. This section will show why supermajority rule is inherently less democratic than majority rule in that it uses less of the information we have about the preferences of society. When we move from majority to supermajority rule, we effectively throw away the preference information we have about pairs of alternatives wherever a supermajority does not prefer either alternative to the other. In place of using preference information to decide between the two alternatives, we have to decide on some other ground. Usually, the alternative that is the status quo prevails. Thus, the decision rule is biased in favor of one of the alternatives or, in the language of May's theorem, is not neutral. We have replaced a democratic decision with an imposed one: a decision based on preferences with a decision based on precedent.

Of course, as we move from majority to supermajority rule, we reduce the instability in outcomes associated with majority rule. This is precisely because we are deciding between fewer pairs of alternatives using society's preferences. Instability under majority rule results from the fact that social preferences may involves cycles (a is preferred to b is preferred to c is preferred to a). As we stop relying on preferences and rely more on which alternative is the status quo, the probability of such cycles diminishes. However, in the next section, I will show that it is precisely this instability that offers protection to minorities under majority rule. In Section 6, I will argue that instability in outcomes actually enhances systemic stability, following the argument in Miller (1983).

We will analyze majority rule and supermajoritarian decision rules using the graph-theoretic framework from Miller (1980). Consider Figure 4a. A line from a point 1 to point 2 means that alternative 1 is majority rule preferred to alternative 2. Let us assume that there are an odd number of voters and that the preferences of all voters over possible alternatives are a linear ordering. That is, if 1 and 2 are alternatives, then every voter has a preference over 1 and 2, and every voter's preferences are transitive (if a voter prefers

1 to 2, and 2 to 3, then the voter prefers 1 to 3). Then Miller (1980) shows that society's preferences under majority rule can be expressed as a tournament (a complete asymmetric directed graph). That is to say, if we take any two alternatives, then society strictly prefers one to the other, and thus all points in the graph are connected. However, although individual preferences are transitive, society's preferences are not – alternatives 3, 4 and 5 form a cycle.

Let us consider what happens when we go from majority to supermajoritarian rule, by raising the voting quota required for one alternative to beat another from 50 percent + 1 to some higher value. As the voting quota is raised, some of society's preference relations are erased. If the voting quota is q, and the proportion of the population that prefers alternative 3 to 4 is greater than 50 percent but less than q, then the decision rule no longer gives a social preference between alternatives 3 and 4. Thus, we go from the situation depicted in Figure 4a, where the decision rule ranks all pairs of alternatives, to that in Figure 4b, where the dotted line represent preference relations that have been erased. As we further increase the voting quota q, preference relations cannot be replaced. If q people do not prefer alternative 3 to 4 or 4 to 3, then a higher quota q^* clearly cannot prefer 3 to 4 or vice versa.

However, as Rae (1975) argues, it may well be necessary to make a decision between two alternatives, even though our decision rule does not rank them. In this case some other criterion, outside of the population's preferences, has to be used. Generally in the case of supermajoritarian systems, the status quo is privileged. The alternative that is the status quo is maintained unless some other alternative is preferred by quota q of the population. This, however, has significant distributional consequences. Under the supermajoritarian quota q, every blocking coalition (size = 100 percent − q) can block any alternative that makes it worse off than the status quo. The status quo becomes essentially the guaranteed position of each blocking coalition. As a result a great deal of the distributional bargaining that otherwise would
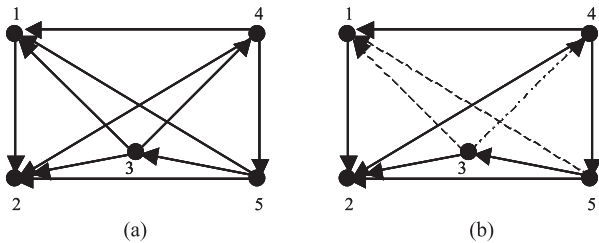

Figure 4. Society's Preferences over Alternatives under Majority and Supermajority Rule

go on may be pre-empted. The decision is biased in favor of the status quo and thus, by extension, in favor of those parties who favor or can tolerate the status quo.

Similarly, we can see why increasing the voting quota reduces the instability associated with majority rule. Saari (1997) shows that as we increase the voting quota, then the set of alternatives that are not defeated by any other alternative (the core) must expand monotonically. That is, the core under voting quota q^* must be a subset of the core under quota q^{**}, if $q^{**} = q^*$. Considering Figure 4, we can see why this must be the case. As we raise the quota from q^* to q^{**}, we erase the lines representing the preference relations between any two alternatives where the majority in favor of one over the other is less than q^{**} but greater than q^*. However, no new social preference relations are added – if the social preference between two alternatives is undefined under quota q^*, it will still be undefined under the higher quota q^{**}. As a result, the set of alternatives that are undefeated will not shrink as some social preference relations are deleted and may expand.

A voting system will produce no cycles under any preference profile when the quota $q = n(p - 1)/p$, where n is the population size and p is the number of alternatives (Craven, 1971; Ferejohn and Grether, 1974; Nakamura, 1979). If preferences and alternatives can be represented spatially, then a core must exist if $q = n(w - 1)/w$, where w is the number of dimensions (Greenberg, 1979; Schofield et al., 1988). In the case of unanimity, transitivity is ensured with any number of alternatives or dimensions. If alternative 1 is unanimously preferred over alternative 2, and alternative 2 is unanimously preferred over alternative 3, then alternative 1 must be unanimously preferred over 3, because we assume that every individual's preferences are transitive. However, we achieve this stability by eliminating a great deal of information about society's preferences. Consider Figure 5, which represents hypothetical social preference relations under unanimity. Compared to Figure 4, there are few lines connecting the nodes. The only lines remaining are those between an alternative that is unanimously preferred to another.
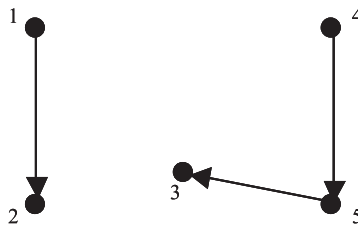

Figure 5. Social Preference Relations under Unanimity

Thus alternative 1 is undefeated (that is to say, it is in the core) and is pareto-optimal (there is no alternative that is unanimously preferred to it), even though it is defeated under majority rule by alternatives 3 and 5, which are not in the core.

Thus, we can see that the effect of going from majority rule to more supermajoritarian quota rules is to ignore more and more preference information and to rely more and more on precedent – whichever alternative is established as the status quo prevails. Naturally, this makes the status quo more stable, at the cost of the outcome being less democratic. However, as I will show in the next section, it is precisely this instability – the ability to overturn undesirable outcomes if necessary – that guarantees protection to minorities.

4. Supermajority Rule and the Protection of Minorities

It has frequently been argued that supermajoritarian decision rules (both explicit and implicit) safeguard minorities. However, we have seen that supermajoritarian processes essentially discard preference information when the majority is less than quota q and imposes the status quo in these cases. To argue that replacing marginal democratic outcomes with a priori outcomes protects minorities requires some strong assumptions. First, we must believe that minorities are more at threat from a change in the status quo than from a failure to change the status quo, either in response to an existing injustice or some new threat. Second, we must be able to say what the status quo is and will be. In other words, we require certainty (or at least a high degree of confidence) about what the status quo will actually be in the future. The next section will argue that this assumption of certainty is unrealistic over the timespan of constitutional arrangements. This section will show that if we do not have prior knowledge of our interests, majority rule provides most protection to the worst-off minority.

Suppose we are choosing a voting system behind a 'veil of ignorance' of the type proposed in Rawls (1971/1999). That is to say, we have no particular information and thus are not aware of our preferences or the status quo point. Under these conditions Rawls argues that it is rational to employ the maximin principle – we choose the rule that maximizes our utility in the worst situation we could find ourselves. The worst outcome we could find ourselves in would be to be faced with a very unfavorable outcome that we are unable to overturn by joining with a coalition of other voters. Considering different voting quotas, we can show that the higher the quota, the lower the utility floor we are guaranteed and, thus, that the system that guarantees us the highest utility floor is majority rule:

PROPOSITION 1: *Given a voting rule with quota q, let $m_i(q)$ be the utility associated with the least preferred position for agent i that, if enacted, no coalition including i could overturn given sincere voting. Then $m_i(q) \geq m_i(q + 1)$.*

(Proof in Appendix.)

The intuition behind the proof is straightforward. Let us define the $_iCore$ (the core for voter i) as the set of alternatives that voter i cannot overturn by joining with a coalition other voters of size q or greater and replacing it with another alternative. The worst thing that can happen to voter i is the outcome in the $_iCore$ that is least favorable to voter i. As the quota rule q increases from q^* to q^{**}, the size of the $_iCore$ monotonically increases, as some social preference relations are deleted and none are added, so some alternatives that voter i previously could have overturned are now invulnerable. As the $_iCore$ under quota q^* must be a subset of the $_iCore$ under quota q^{**} ($q^{**} > q^*$), so the worst outcome for voter i in the $_iCore$ under quota q^{**} must be at least as bad as the worst outcome under quota q^* and possibly worse. Thus, a higher quota exposes voter i to potentially worse outcomes that cannot be overturned through a coalition with other voters. Majority rule is the decision with the lowest voting quota that does not result in indeterminate outcomes. (A quota of less that 50 percent can result in situations where alternative 1 is socially preferred to alternative 2 and alternative 2 is socially preferred to alternative 1.) Thus majority rule offers maximum protection against the imposition of an outcome that a voter is unable to bargain to overturn.

Simple majority rule gives us the most protection against having unfavorable outcomes imposed on us. Indeed, provided that preferences are distributed in at least two dimensions and do not meet some very stringent symmetry conditions (Plott, 1967; McKelvey, 1976, 1979; Schofield, 1978) each agent can find a coalition to overturn any outcome except their own ideal point. The problem is that any other agent can do the same. Whether this forces 'reasonable' outcomes or whether this leads to chaos is a behavioral question, which will be addressed later. Nevertheless, majority rule offers greater protection against an imposed outcome than any other system and, therefore, the system that offers most protection for minority rights is, ironically, majority rule.

5. Supermajority Rule and Uncertainty

To argue that it is prudent to privilege the status quo over an alternative that is majority preferred, it is necessary to be able to say what the status quo is. Furthermore, the greater the degree of uncertainty about the status quo
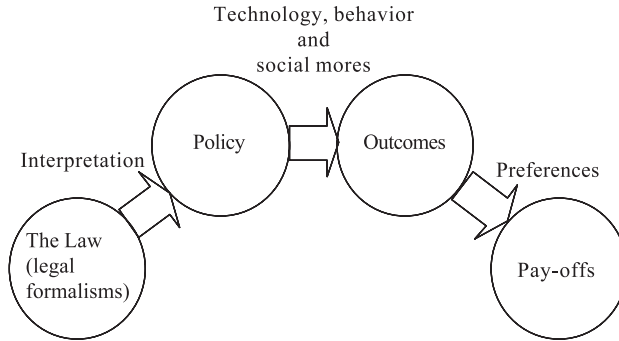
Figure 6. Mappings from the Law to Final Pay-offs

there is, the more reasonable it is to use the Rawlsian assumption of a veil of ignorance as a device for arguing about justice. I will argue here that over the time frames relevant to constitutional choice, the status quo may be quite indeterminate.

The analysis here builds on the work of Brunel-Petron (1998)[11] concerning the theory of rights. Brunel-Petron argues that we have to consider rights as claims on outcomes. The mapping, however, between the law and the rights we possess in practice is problematic. This mapping may change over time, in particular in responses to changes in technology and social mores. Thus, although the law may not change, if there is a significant change in technology or mores, this law may represent a very different outcome. This argument is similar to that made by Rae (1975) with regard to 'utility drift': even though law stays the same, the outcome changes because the subjects of that law change their behavior in ways that harm each other.[12]

This idea can be applied to our consideration of the status quo. Indeed between the set of possible status quo positions and the set of possible pay-offs, there are several mappings. Supermajoritarian rule privileges the status quo by making it hard to change the law. The status quo that is protected, however, is not an outcome or pay-off but rather a set of legal formalisms. If the way in which these legal formalisms are translated into outcomes or pay-offs changes, then the substantive status quo will change, although the formal status quo is untouched. Figure 6 illustrates the mappings from the set of possible laws to the set of possible pay-offs.

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11. Thanks to Donald Saari for pointing me to this source.

12. Rae (1975) gives the example of people building chimneys that pollute their neighbors in a jurisdiction that does not yet have effective regulation of pollution.

First, the written law produced by legislation has to be translated into government action or policy. The interpretation of law by the executive and the courts, can, of course, change over time, which will substantively change policy. This kind of slippage is particularly significant in supermajoritarian systems. Under simple majority rule, it is relatively easy for the legislature to 'correct' changes in interpretation by the executive or judiciary by simply passing new legislation. If the decision rule is supermajoritarian, however, the executive and judiciary may have far more discretion. As such, supermajoritarian rule may amount, in practice, to a form of concealed guardianship, if the interpretation is performed by an unelected body. Indeed Dahl (1956) criticizes the US Supreme Court in this role. Moe and Howell (1999) argue that supermajoritarian rules effectively empower the US President because he has some unilateral power to determine how laws are implemented. Likewise it can be argued that the power of the European Commission (the executive of the European Union) is enhanced by the fact that the Council of Ministers proceeds on the basis of unanimity or qualified majority voting and, thus, has a hard time overturning Commission rulings.

Even if government policy remains constant over time, the outcomes that this policy represents may change because of changes in technology, behavior, social mores or the environment in general. For example, slow government response may be tolerable or even desirable in normal conditions but disastrous in time of national emergency. (This is why *Federalist* 22 is so hostile to supermajoritarianism.) Technology may also affect the effective consequences of laws. The right to keep weapons may have very different consequences depending on the development of military technology. The development of efficient computers has surely changed the impact of data privacy laws (or lack thereof). Similarly, social mores change the consequences of laws. A law banning public nudity would have no effect if nobody wished to behave in this way or if nobody minded. Neither would the lack of such a law.

In addition to the direct effect on the relationship between policy and outcomes that a change in technology, behavior or mores may have, there may be indirect effects mediated through economic processes. Changes in technology change production functions. As a result, demand for factors of production change, as does their relative value. The factors that are crucial to people's livelihood and welfare, and the relationship between them, also change. A type of economic regulation that appeared equitable may no longer be so. In an agrarian society, we would not expect people to even conceptualize the need for organized labor. It is only with the advent of an industrial society that disputes over the right to organize or not to be organized become salient, as industrial labor is now a key factor of production. Lack of specific laws dealing with organized labor have no effect when there is no societal drive to organized labor but may later become crucially

important. Similarly, in a post industrial economy, intellectual capital may become the crucial factor of production. Laws concerning intellectual property that seemed reasonable when employees were expected to work for a firm for life may be extremely problematic in a society where frequent job shifts are commonplace. Suddenly, the distribution of intellectual property rights between employer and employee becomes a crucial concern.

Finally, even if outcomes remain constant over time, society's preferences over these outcomes may change. Thus the eventual pay-offs to the various actors would be different, and our considerations of justice would have to adapt to this. One particular instance in which society's preferences may be exceptional is during time of crisis. It is possible that legislation may be passed hastily under crisis conditions despite supermajoritarian rules, because all parties may want action of some type to be taken quickly. However, these hastily made decisions may prove extremely difficult to change when time allows more detailed consideration.

It is very difficult to argue that we can know what the status quo will be in the medium term, let alone that it will be a satisfactory outcome. Thus, attempts to 'engineer' specific outcomes using constitutional mechanisms appear hubristic. Furthermore, we have not yet considered one further change we would expect to occur over time: The agents themselves will change, as some die and others are born. Supermajoritarian rule privileges the status quo and, as such, the choices of one generation over that the succeeding one. In this sense supermajoritarian rule can be thought of as a mechanism by which a dominant group today protects itself against the majority of the next generation, bequeathing to their children a world that not only did they not create but one that they may not even be able to revise.

6. Stability and the Benefits of Cycling

The instability resulting from cycling is the other main objection to majority rule given as justification for the adoption of supermajoritarian decision rules. However, following Miller (1983) I have argued that it is precisely this instability that allows us to overcome the problem of the protection of minorities from a 'tyranny of the majority'. We have seen that supermajoritarian rule merely replaces the possibility of domination by a majority with domination by a privileged minority. However, the presence of multiple, cycling majorities provides the possibility of a check on majorities without artificially empowering a minority. Furthermore, we now have theoretical and empirical reasons to believe that there are strict bounds on the instability associated with majority rule. Not least amongst these is that fact that countries with majority rule legislatures with few, if any, external checks and balances (such as The Netherlands, Austria and Sweden) do not appear

particularly unstable. Indeed these are amongst the countries identified by Lijphart (1999) as being 'consensual'.

Majority rule cycling can protect minorities in two ways. First, as Miller (1983) argues, it can ensure that there are no permanent losers. A group out of power can always expect to be able to defeat the incumbents in the future and, thus, have an incentive to keep playing the game, which enhances the stability of the system. Second, the need to build and maintain majority coalitions encourages inclusion. Any party that is excluded and feels like the interests of its constituents are threatened can undermine the governing coalition by offering its support to one of the governing parties at a very low 'cost'. By offering some of the governing parties outcomes they find very desirable in exchange for only the outcome it views as absolutely vital, an excluded party can break up the governing coalition. Of course, this outcome is not stable, as the new excluded parties have an incentive to pursue the same strategy. The only way to achieve stability is to organize outcomes so that excluded parties are indifferent to staying in opposition and trying to break into the governing coalition. The fact that cycling majority rule makes it easy for an excluded party to make trouble by trying to undermine the governing coalition encourages power-sharing. Ironically, majority rule seems to encourage the kind of 'taking turns' solutions that Guinier (1994) advocates.

This provides a solution to the problem of intensity of preferences, which Dahl (1956: Ch. 4) suggested was insoluble. If a majority and a minority disagree on an issue which both view as being vital to their survival, there is probably no solution satisfactory to both parties. However, in a situation where a minority views an issue as vital, while the majority is relatively apathetic about it, single-issue majority rule produces an unsatisfactory result. However, any attempt to safeguard the minority with special protections is problematic, as there is no way to measure what issues actually are vital to the minority, and it will have an incentive to exaggerate in order to get its way on more issues. However, a majority-rule parliament in which multiple issues are considered provides a solution. The minority can trade votes on issues it considers of minor importance for support on issues it considers vital.

Interestingly, although Buchanan and Tullock (1962) have been amongst the foremost advocates of unanimity rule, the following quotation (p. 132) provides an argument very similar to the previous one:

> Applying the strict Pareto rules for determining whether one social situation represents an improvement over another, almost any system that allows some such exchange to take place would be superior to that system which weights all preferences equally on each issue. By way of illustration, it is conceivable that a proposal to prohibit Southern Democrats from having access to free radio time might be passed by simple majority vote in a national referendum should the issue be raised in this way. Such a measure, however,

would not have the slightest chance of being adopted by the decision-making process actually prevailing in the United States. The measure would never pass the Congress because the supporters of the minority threatened with the damage would, if the issue arose, be willing to promise support on other measures in return for votes against such discriminatory legislation.

While cycling has beneficial effects in terms of the protection of minorities, the negative effects in terms of instability have been overstated. On the theoretical level, it is now apparent that the presence of cycles does not mean chaos in the sense of 'anything can happen, and probably will'. Early interpretations of McKelvey's (1976, 1979) and Schofield's (1978) global cycling results (notably Riker, 1982) argued that the results had a corrosive effect on democratic theory, making any outcome as valid as any other, and making agenda-setting politicians the key determinant of outcomes. However, it is now clear that even without a core, majority rule is rather more orderly. For example, Miller (1980) shows that in a variety of institutional settings, outcomes will tend to fall in the 'uncovered set' (the set of points that are not 'covered', in that there is no other point that beats them and everything that they beat). McKelvey (1986) shows that the uncovered set is typically a relatively small, central set. Furthermore, with spatial preferences, it can be shown that any point in the generalized median set can beat any point that is outside it by more than three times its radius (Feld et al., 1989). Thus, in order to produce an extreme non-central outcome would require a Mephistolean agenda manipulator who is able to permanently exclude alternatives around the median from consideration.[13] Experimental research also suggests that even where there is no core, majority rule tends to produce outcomes in a small central set, similar to the uncovered set (see McKelvey and Ordeshook, 1990).

There is no evidence that countries that have majority-rule parliaments and very few checks and balances are particularly unstable.[14] Indeed, many of the small European democracies identified by Lijphart as being consensual are of this type, with majority rule legislatures elected by proportional representation (The Netherlands, Belgium, Austria, Sweden, Norway, Denmark).[15]

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13. In addition, Tataru (1999) puts precise limits on the number of moves required to move a given distance from the median and shows that this function is in the limit linear.

14. The European country most associated with instability (Italy before 1994) actually had very supermajoritarian parliamentary practices, with frequent use of the filibuster (see Di Palma, 1977). The existence of secret voting in the legislature also made vote-trading arrangements of the type we have been discussing unenforceable.

15. Switzerland is an example of a democracy that Lijphart terms strongly consensual that is also strongly supermajoritarian. Belgium has become rather more federalist with the new Constitution of 1994 but continues to work on the basis of majority rule for issues not having constitutional standing.

Given the presence of cross-cutting social cleavages, and the fact that there are certainly multiple issue dimensions, we would expect cycling majorities amongst parties. Indeed, in all of these countries we have seen government by different combinations of parties and by combinations that do not make sense in terms of a one-dimensional left–right ideological division. It is true that these countries have various institutions that facilitate power-sharing. However, these institutions exist within the context of majority rule. There have been 'grand coalitions' and delegation of decision-making to communities and functional bodies. Even when some parties are excluded from the governing coalition, they are not completely excluded from decision-making, as parliamentary committees and various consultative councils are important. As Strom (1990) argues, the power difference between those in government and those out is small. There is a willingness by party leaders to take decisions in an inclusive manner, as well as a keen awareness that those excluded are part of an 'alternative' coalition.

Finally, we may speculate about why majority rule is conducive to consensual outcomes. Although Lijphart (1977, 1984, 1999) does not talk in the language of social choice theory, his model of consensus democracy seems to be driven by the presence of cycling majorities. Consensual outcomes are more likely when no group is able to dominate on its own but instead groups have to reach accommodations with each other. In these circumstances majority rule has the advantage of making intransigence a very risky strategy. If I refuse to compromise, you can reach a deal with someone else and I will be excluded. With supermajority rules, however, as I have argued earlier, intransigence by a minority may often be an optimal strategy, as a minority may have the power to block changes and, thus, have something to defend. As such, consensus (unanimity) may be the decision rule least likely to produce consensual behavior. Rather than power-sharing being a response to protect minorities from majority rule, it may actually be the type of response that majority rule encourages.

Conclusion

Dahl (1956) argues that majority rule uniquely embodies the values of popular sovereignty and political equality. However, it is argued by Dahl, amongst others, that these are not the only values we are concerned with in matters of constitutional choice. The two alternative values most commonly cited are the protection of minority rights and stability. It is commonly argued that there is a trade-off between political equality (best served by majority rule), on one hand, and minority protection and stability (best served by external checks and balances), on the other. This article has argued that this trade-off is illusory and that majority rule provides more

protection for the worst-off minority than any other decision rule. Furthermore, the instability inherent in majority rule is not necessarily undesirable but is rather precisely the condition that allows for the protection of minorities without privileging some minorities at the expense of others.

Majority rule offers the most protection to minorities because it makes it easiest for a minority to form a coalition that can overturn an unacceptable outcome. Supermajority rules can certainly protect (or rather privilege) some minorities but only at the expense of others. It is not logically possible for every minority to be privileged over every other minority. Supermajority rules make the status quo hard to overturn and, thus, privilege minorities who favor the status quo over those who favor changing it. Arguments in favor of supermajoritarian institutions have tended to be built on the assumption that the threat to rights from government action or a change in the law is greater than the threat from government inaction or the maintenance of current laws. Given the history of the United States this assumption is problematic, especially given the use of supermajoritarian institutions to impede the extension of civil rights. Furthermore, given uncertainty about legal interpretation, technology, social mores and preferences over the time scale involved in constitutional choice, any assumptions about where the threat to rights are likely to lie are inevitably heroic.

While supermajoritarian rules are only able to protect some minorities at the expense of others, the instability resulting from global cycling under majority rule offers an alternative approach to the problem of the tyranny of the majority. The costs of instability resulting from cycling have been overstated – theoretically we no longer expect unrestricted or 'chaotic' outcomes and the countries that practice relatively unchecked majority rule are quite stable. Nevertheless, the possibility of cycling seems to lead to inclusive politics, in that it is always necessary to assemble a broad coalition, and any coalition can be split. There is no 'tyranny of the majority' because there is no single, cohesive majority ready to dominate everyone else. This, of course, is essentially the 'extended republic' argument made by James Madison at the Constitutional Convention of 1787 and in *Federalist* 10.

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Appendix: Proofs

LEMMA 1: *Let the $_i$Core be the 'core for agent i', that is the set of points that a coalition C including agent i cannot overturn. The $_i$Core with quota q will be a subset of the $_i$Core with quota q + 1. The $_i$Core must contain at least the ideal point of agent i.*

The $_i$Core can be thought of as the set of points that agent i cannot block by proposing a point that i and $q-1$ other voters prefer. Let $L(C)$ be the set of points that coalition C cannot overturn – i.e. the set of points for which there does not exist another point that coalition C unanimously prefers. Then the $_i$Core for quota q is:

$$\bigcap_{C \subseteq N: |C| \geq q, i \in C} L(C) = \left(\bigcup_{C \subseteq N: |C| \geq q, i \in C} (L(C))' \right)'$$

It is clear that for $\bar{C}$ such that $|C| = q$, $L(\bar{C}) \subseteq L(\bar{C} + i)$, where $i \notin \bar{C}$. If there is a point x such that coalition $\bar{C}$ cannot find another point that it unanimously prefers, then there cannot be a point that the larger coalition $(\bar{C} + i)$ unanimously prefers to x. Therefore,

$$(L(\bar{C} : |C| = q))' \supseteq (L(\bar{C} + i))'$$

$$\Rightarrow \bigcup_{C \subseteq N: |C| \geq q, i \in C} (L(C))' \supseteq \bigcup_{C \subseteq N: |C| \geq q+1, i \in C} (L(C))'$$

$$\Rightarrow \left(\bigcup_{C \subseteq N: |C| \geq q, i \in C} (L(C))' \right)' \subseteq \left(\bigcup_{C \subseteq N: |C| \geq q+1, i \in C} (L(C))' \right)'$$

$$\Rightarrow \bigcap_{C \subseteq N: |C| \geq q, i \in C} L(C)' \subseteq \bigcap_{C \subseteq N: |C| \geq q+1, i \in C} L(C)' \Rightarrow {}_i\text{Core}(q) \supseteq {}_i\text{Core}(q+1)$$

Given that a coalition containing i cannot overturn i's ideal point and the $_i$Core is defined as those points that a coalition containing i cannot overturn, then the $_i$Core must at least contain i's ideal point.

PROPOSITION 1: *Given a voting rule with quota q, let $m_i(q)$ be the utility associated with the least preferred position for agent i that, if enacted, no coalition including i could overturn given sincere voting. Then $m_i(q) \geq m_i(q+1)$.*

Formally, $m_i(q) = \min_{x \in {}_i\text{Core}(q)} u_i(x)$. It is obvious that $\min_{x \in X} u_i(x) \geq \min_{x \in Y: Y \supseteq X} u_i(x)$, given $X, Y \neq \varnothing$. Given Lemma 1 that $_i\text{Core}(q) \subseteq {}_i\text{Core}(q+1)$, it can be seen that $\min_{x \in {}_i\text{Core}(q)} u_i(x) \geq \min_{x \in {}_i\text{Core}(q+1)} u_i(x)$, and, thus, $m_i(q) \geq m_i(q+1)$.

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