



The unanimous voting rule is not the political equivalent to market exchange

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Abstract. The unanimous voting rule is often viewed as analogous to voluntary market exchange. This paper demonstrates that when third-party pecuniary effects exist, this analogy breaks down because unlike markets, unanimous voting requires compensation for these effects. Thus, efficient market outcomes typically will be rejected by the unanimous voting rule. Even when transactions costs are low enough to make compensation feasible, the political outcome under unanimity will differ from the market outcome. The distributional effects of unanimity provide the incentive for people to substitute rent-seeking behavior for productive activity, and reduce the incentive for productive change, providing additional reasons why a less-than-unanimous voting rule may be optimal when resources are to be allocated politically.

1. Introduction

Since the publication of Buchanan and Tullock's *The Calculus of Consent* in 1962, the unanimous voting rule has served as a benchmark for evaluating outcomes of the political process. There is a parallel between market exchange and the requirement of unanimity in voting because in both cases, all parties to an action agree to it. Market exchange occurs only with the voluntary consent of those trading, and a rule of unanimity similarly requires the consent of everybody participating in the collective action. Because the unanimous voting rule requires everyone to approve, nobody is made worse off,¹ thus outcomes are guaranteed to be Pareto improvements, again inviting the analogy with market exchange. This analogy and high stature placed on the unanimous voting rule can be traced even further back to Wicksell (1967 [1896]). It also plays an important role in the constitutional economics literature, where unanimous agreement provides the foundation for efficient constitutional rules.²

The analogy between unanimous voting outcomes and the outcomes of voluntary market exchange breaks down whenever there are more than two individuals in the collective decision-making group, and when there are third-party effects, either in the form of pecuniary or technological externalities.

Because actions almost always generate pecuniary effects on third parties, this paper focuses on the implications of pecuniary externalities, and shows that there is always a difference in the market and unanimous voting outcomes when pecuniary externalities exist. The nature of the difference depends upon the size of the group involved, but the difference exists regardless of group size or the presence of decision-making costs. The unanimous voting rule differs from voluntary market exchange because unanimous approval requires compensation for external effects in the final outcome. In large-group cases where the compensation cannot be made at low cost, the set of passable alternatives under unanimous voting will be only a subset of all efficient outcomes, but even when decision-making costs are low so that compensation can be made for pecuniary externalities, important differences still remain between unanimous voting and market exchange.

The fact that unanimous decision-making must take account of pecuniary externalities has several important implications for public sector resource allocation. First, there is an additional, and perhaps more important reason than the holdout problem and high decision-making costs for why the unanimous voting rule is not generally optimal.³ Second, the unanimous voting rule differs from market allocation of resources because it gives individuals a right to their current standard of well-being, while markets and less inclusive voting rules do not. Third, because the political process effectively gives individuals this right, it creates demands for compensation or protection from pecuniary externalities. The compensation effects induced by the voting mechanism are important causes of rent-seeking behavior. A firm would lobby just as hard to have the public sector protect it from a polluting neighbor (technological externality) as from a new competitor (pecuniary externality).

The idea that the unanimous voting rule is the political equivalent of market exchange arises more from overlooking all of the effects of market exchange than from any misunderstanding of the implications of unanimous voting. In theory, market exchange is often viewed as a Pareto improvement in the absence of market failures, but often it is not, because of pecuniary externalities.⁴ Thus, while markets (in the absence of market failure) do allocate resources efficiently, they do not do so by making everybody better off – a fact that is well-recognized in popular debate if not by economists. When a new Wal-Mart comes to a small town, it may have a devastating effect on small downtown businesses. Similarly, American producers can be hurt by free-trade agreements such as NAFTA, and workers can lose their jobs, making them worse off. In the face of electric utility deregulation, power companies argue that they should be compensated for the effects of deregulation. In a free market, these trades can occur without the approval of those who are harmed by pecuniary effects, but if unanimous approval is required

in a political setting, those who are harmed by pecuniary externalities can object, and action will not take place without their approval. What is often overlooked in evaluating market exchange is that while both buyer and seller benefit, others may be harmed by pecuniary effects, and it is here that the parallel between market exchange and the voting rule of unanimity breaks down.

2. Externalities, voting, and market exchange

2.1. The analogy between unanimous voting and market exchange

The analogy between unanimous voting outcomes and the Pareto efficient outcomes of voluntary market exchange is easily demonstrated in a two-person framework. If both persons A and B are made better-off by an action, they would both vote in favor of it, and thus the unanimous outcome guarantees a Pareto improvement. For a market exchange, the same requirement holds, and the exchange will only happen if it generates a Pareto improvement. Thus, in a two-person setting, market exchange and a unanimity voting rule are exactly analogous.

Incorporating more than two people into the analysis introduces the possibility of third-party effects. As Buchanan and Tullock (1962: Ch. 6) show, as the voting rule moves toward unanimity, expected external costs borne by voters fall, and at the unanimous voting rule external costs are completely eliminated. To gain unanimous approval, all third-party effects must be fully compensated for to gain the agreement of the third party. Herein lies the fundamental distinction between the unanimous voting rule and voluntary market exchange. Market exchange does not produce an outcome with zero external costs. When discussing externalities, the public finance literature has focused on market failure that arises from technological externalities resulting from market activities, and has ignored the pecuniary externalities that occur, perhaps because they do not result in inefficiencies. However, a unanimous voting rule would prevent both technological and pecuniary externalities, and in voting, pecuniary externalities can be very significant. Transactions that would occur in markets despite pecuniary externalities will be prevented under unanimity rule. Of course, with less inclusive voting rules voters can also vote against pecuniary losses, but with less inclusive rules voters still expect to bear some external costs, which could include pecuniary externalities. With unanimity rule, however, pecuniary externalities are eliminated.

Consider a situation in which a new competitor would like to enter an industry. Assume that the new firm would be successful enough to draw customers away from the existing firms, reduce their profits, and perhaps put

them out of business. In the market, this outcome would be efficient, because the gains to the consumers and to the new firm combined would exceed the losses to the existing firms. Note, however, that while it is an outcome consistent with efficiency, the action itself would not be Pareto superior, because the existing firms would suffer losses as a result of the entry of the new firm. These losses to the existing firms are external pecuniary costs of the entry of the new firm. Markets do not require compensation for these effects. In markets, the decision-making parties (the new firm and the customers) are allowed to take action without the approval of other members of society (the existing firms).

In contrast, suppose the entry of the new firm was subject to collective approval by the unanimous voting rule. Now, to enter, the new firm would have to pay compensation to the existing firms to secure unanimous approval for entry into the industry. The decision-making group (now the voting group) has been expanded relative to the market scenario and now includes parties who will suffer negative external effects. If indeed the entry was efficiency enhancing, the gains of the consumers and the new firm would be sufficient to fully compensate the existing firms for their losses. A relevant issue is whether the group is small enough for this compensation scheme to be transacted at low cost.⁵ If so, then the firm will enter, but the outcome will fundamentally differ from the market because this compensation to existing firms must take place to obtain unanimous approval. Thus, despite the voluntary market and the unanimous decision rule both having an outcome of new entry in this low-transactions-cost case, the characteristics of the outcomes differ due to the requirement of compensation under unanimous voting, while not under the market process. If the voting group is sufficiently large that transactions and bargaining costs preclude the compensation from being feasible, then unanimous approval will not be secured, and the entry will not occur. In this second case, the outcome is completely different from the market and, more generally, the set of new entries produced under unanimous voting will be only a subset of the total new entries produced with voluntary market exchange.

Returning to the Buchanan and Tullock (1962: Ch. 6) optimal voting rule model, while external costs go to zero for the unanimous decision rule, the decision-making costs grow exceedingly high. The search and bargaining costs required to undertake compensation produce the high decision making costs under the unanimous voting rule. But while high decision making costs may prevent collective action when pecuniary externalities exist, note that the compensation requirement is not the same thing as a transactions cost, and would remain even if there were no transactions costs or decision-making costs. There is an important difference between the voting group composed of

the full society, and the decision-making group in the voluntary transaction, which is limited to only those who are party to the exchange. The unanimous voting rule requires all external effects be compensated, while the market mechanism does not.

2.2. *Pecuniary externalities and the efficiency of market and unanimous voting outcomes*

Externalities are produced when the actions of some confer benefits or costs to others. Using this definition, some externalities are produced solely through the price system, and are referred to as pecuniary externalities.⁶ For example, if someone is operating a business and a competitor opens up next door, taking some of the original business's customers, this is a pecuniary externality. The original business is harmed by the actions of the new business, but all the harm is felt through market forces (in this case, a reduction in demand for the firm's output). Typically, pecuniary externalities are ignored because they do not create inefficiencies, but they are important in politics because people want to protect themselves from negative pecuniary externalities just as much as from any other cost imposed on them. The examples cited earlier, such as domestic firms trying to use the political process to try to shelter themselves from foreign competition and local businesses trying to use the political system to prevent giant retailers from locating in their town, illustrate this. Pecuniary externalities play a role in politics regardless of the political decision rule, but with less than unanimous decision rules, external costs are still expected to be positive, as Buchanan and Tullock (1962) note. Thus, pecuniary externalities can remain with less-than-unanimous decision rules. Only under unanimity are external costs completely eliminated, and this includes pecuniary externalities. Thus, under unanimity, compensation must be paid to those who suffer pecuniary externalities as a result of a collective decision for that collective decision to receive unanimous approval.

Because unanimity rule requires compensation for pecuniary externalities, market exchange and unanimity rule are not equivalent, even if transactions costs and decision-making costs are assumed away. Consider again the example of Wal-Mart, a large retailer, locating in a small town, reducing the demand at existing local businesses, lowering their profits and perhaps putting some of them out of business. The negative effect on the local businesses is a pecuniary externality, and if customers would rather shop at Wal-Mart, and if the Wal-Mart is profitable, the establishment of the Wal-Mart allocates resources more efficiently. In a market setting, all that is necessary for this to happen is for Wal-Mart and its customers to agree for this efficient change to take place. Now consider the situation where unanimous agreement through the political process is required. Those who suffer pecuniary externalities

from the opening of the new store must also approve, giving everyone a property right to the status quo. The market mechanism gives people property rights to the ownership of property only, but not to its value, and the actions of others can, through market forces alone, lower the value of people's property. The same can happen with a less than unanimous decision rule. Some people can use the political process to impose costs on others. With unanimity, however, everyone has a property right not only to their property, but to the value of their property, and any change in the status quo must include compensation for pecuniary externalities that would go uncompensated in the market.

2.3. Decision-making costs and unanimity

This section considers two polar cases. In the first (often associated with small groups), decision-making costs are assumed to be zero, and in this case it is costless to find the political package that compensates everyone for any pecuniary externality that results from collective action. At first this may appear to reduce the issue to a merely distributional question, following Coase (1960). Under certain assumptions that may be the case, but under others, even with zero decision-making costs, there are real effects that result from the compensation of pecuniary externalities. In markets, there is no compensation for pecuniary externalities, so, for example, a new competitor does have to compensate existing firms for the pecuniary externality imposed on them in the form of lost sales.⁷ If unanimous approval were required in the political process, however, individuals would have a right to their current standard of well-being, requiring compensation for the pecuniary externality. Under extreme assumptions of no transactions costs or bargaining costs, and with perfect information, the difference between the market and unanimous voting outcomes would be identical except for distributional effects, but under more reasonable assumptions of imperfect information and transactions costs, they would not, even with no political decision-making costs.

One reason is that compensation for those who suffer pecuniary externalities would have to come from the benefits of those who gain from the change. If it was efficient for Wal-Mart to enter the market, for example, the benefits to consumers plus the profits for Wal-Mart would produce enough surplus that the pecuniary losers could be compensated and still leave some benefit to Wal-Mart and its consumers. With compensation for pecuniary externalities, however, it is clear that the total benefits to Wal-Mart and its customers will be less than without compensation. When uncertainty about future benefits is factored into the analysis, the expected benefits from entry may not be sufficient to encourage entry when compensation is paid, even though the larger amount of benefits that could be obtained without compensation would encourage entry. The point is simple. The net benefits to those enter-

ing the market would be less with compensation under unanimity rule than without compensation under the market system. The lower level of benefits would, at the margin, discourage entry in this case and, more generally, would discourage actions that create pecuniary externalities. Thus, without perfect information, uncertainty about future profits from present actions implies that resource allocation would be different under the requirement of political unanimity than in the market, even if political decision-making costs were zero and the compensation arrangement could be calculated costlessly.

A second factor to consider in the zero decision-making cost setting is that compensation for pecuniary effects allows people to earn a return on inefficiently employed assets. In the market, if an entering firm comes up with a better way of satisfying customers, incumbent firms either have to adjust or suffer losses. Under a political rule of unanimity, incumbent firms have a property right to the status quo, so can seek income through compensation for pecuniary externalities resulting from a change in the status quo, rather than having to employ resources more efficiently. Some examples already mentioned are the recent trends toward deregulation in the electrical power industry that have led power companies to demand compensation for the lost value of the removed regulations, and the passage of NAFTA that was surrounded by demands for compensation by domestic firms who were going to suffer losses. The compensation effects induced by the voting mechanism create the incentive for rent seeking instead of production. Of course, rent seeking occurs in politics without the unanimity rule, but without unanimity, the possibility of pecuniary losses remains. Unanimity guarantees that no change can take place without the payment of transfers to those who would suffer pecuniary losses, so reinforces the ability of agents to use the political process for gains through transfers rather than productivity. This stands in stark contrast to the market, where a firm that suffers pecuniary losses from the entry of another firm, or a technological advance, does not get compensated for the loss.

In the second case, with high decision-making costs, often associated with large groups, the analogy between unanimous voting outcomes and market exchange breaks down in a much bigger way. The differences that exist in the absence of decision-making costs are still present, but high decision-making costs mean that it may be prohibitively costly to find a set of transfers that compensates those who suffer pecuniary externalities so that they will agree to the change. Thus, efficient changes that could take place in the market will be unpassable under the unanimous voting rule. Again, consider the hypothetical example where Wal-Mart wants to open up in a small town and the effect will be to run many smaller stores out of business. If the opening of the Wal-Mart was subject to collective approval using the unanimous voting rule, the

winners (here the consumers and Wal-Mart) would be required to compensate the smaller stores to gain their approval in the unanimous vote. Even if the gains to the gainers exceed the losses to the losers, because compensation has to be paid, when the voting group is expanded to realistic proportions, the collective decision-making costs involved in finding a Pareto superior compensation scheme will likely render the compensation problem too costly to solve.⁸ If the bargaining required to secure unanimous approval cannot feasibly take place due to decision-making costs, the vote on the opening of Wal-Mart will fail, despite its efficiency advantage. Because of one-person-one-vote, when compensation must be paid it is the number of gainers and losers that matters in the political process rather than the size of the gains and losses.

In summary, the existence of pecuniary externalities destroys the analogy between the political rule of unanimity and market exchange because under unanimity the gains to the gainers will be reduced, thus reducing the expected return to entrepreneurial action, because rent seeking for compensation will be encouraged relative to productive activity, and because when decision-making costs are high, acceptable compensation packages for pecuniary externalities may be difficult to find.

3. Conclusions

The unanimous voting rule is often viewed as the political analog to market exchange because in both cases all parties to an action are in agreement. This paper demonstrates that this analogy between unanimous voting outcomes and the outcomes of voluntary market exchange breaks down whenever the number of individuals exceeds two, and there are third-party effects, either in the form of pecuniary or technological externalities. Because virtually all voting groups exceed two, and because actions almost always generate pecuniary effects on third-parties, it would be the exception rather than the rule for the analogy between market exchange and the unanimous voting rule to hold. There is a divergence between the outcome under unanimous voting and under voluntary market exchange because unanimity rule requires compensation for external effects. An efficiently operating market with no market failures will still be characterized by pecuniary externalities as the market activities of some affect the prices others face, demand and supply conditions, and the value of others' assets. Markets offer no compensation for these pecuniary externalities, whereas the political rule of unanimity requires compensation.

The ideas here have important implications for public sector resource allocation more generally. The requirement that compensation be paid for

pecuniary externalities gives an additional and perhaps more important reason than the holdout problem and high decision-making costs as to why the unanimous voting rule is not generally the optimal voting rule. By using a less-than-unanimous decision rule in situations where bargaining is unfeasible, compensation would not necessarily have to be paid for pecuniary externalities, opening the door for a larger set of efficient projects to be approved. Unanimity rule differs in an important way from the market mechanism because voting gives individuals a claim to their current standard of well-being, while markets do not. Unanimity rule gives each voter an absolute claim to the status quo because each voter has veto power over any changes, including those caused by pecuniary externalities. A person made worse off, say, because of a job loss or lower wages, is given a voice in the political process to prevent the action imposing this cost. Even in a world of zero decision-making costs where compensation schemes can be costlessly designed, this creates a status quo bias because compensation must be paid out of the profits that would go to those who initiate change, thus reducing the incentive to initiating a change to the status quo.⁹ Furthermore, because compensation must be paid to get unanimous approval, unanimity provides an even greater incentive for rent seeking than less inclusive decision rules. Despite the superficial similarity, the unanimous voting rule is not the political equivalent to market exchange.

Notes

1. Note, however, that unanimous approval under a less than unanimous decision rule (such as under majority voting) is not equivalent to unanimous agreement under a unanimous voting rule (Holcombe, 1986, 1989).
2. The basic ideas behind the role of unanimity in constitutional economics are discussed in Buchanan (1990) and Gordon (1976). Yeager (1985) provides an insightful criticism of this literature. Holcombe (1991) discusses the role of the unanimous decision rule in U.S. constitutional history.
3. See also Lee (1989) regarding the controversial nature of the merits of the decision rule.
4. By market failure, we mean inefficiencies in market allocation of the type identified in the classic article by Bator (1958). For evidence that pecuniary externalities are routinely ignored, see Rosen's (1995) leading public finance textbook. Rosen refers to pecuniary externalities only in a footnote, where he says (p. 91) "... this is a confusing appellation. It is mentioned here only for the sake of completeness and is ignored henceforth."
5. Interestingly, the new firm is in a better position to bargain with the existing firms than is the large set of consumers. Thus, if the gains mostly accrue to the new firm, rather than the customers, this bargaining is likely to be less costly to transact. However, in standard cases, such as entry in a competitive market, the new firm enters and eventually drives market returns to zero economic profit. Here, the new firm would have little profit to bargain with because all gains are to consumers. This more typical situation would have much higher transactions costs of bargaining because the large consumer group reaps

- the gains which must be reallocated to the existing firms in order to produce a Pareto improvement.
6. For a discussion of the differences between pecuniary and technological externalities see, Meade (1952), Scitovsky (1954), and Mishan (1971).
 7. Again, in a very small group case, the existing firms could offer to pay the new firm not to enter. There would exist substantial problems, however, with the ability of future (and perhaps noncredible) threats aimed at extracting more payment. However, in any case in which the entry is efficient, the potential for compensation under the unanimous voting rule is fully possible in the small numbers case.
 8. See note 4 for how the distribution of gains between the new producers and consumers affects the costs of bargaining.
 9. For an excellent review of how business failure is necessary for economic progress see Lee and McKenzie (1993). Lee (1991) discusses how the internalization of these pecuniary effects leads to malice and conflict between segments of society through the political process.

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