

Reading 7

Elements of Public Choice Economics

I. What is Public Choice Theory

In order to give you a decent, academic appraisal of public choice theory, I bought the Kindle e-book [Public Choice III \(2002\) by Dennis C. Mueller](#) of the University of Vienna. I am not very familiar with him, but he seems to be a good scholar to know and understand. [Here is a video of him](#). You do not need to buy this book, since the printed hardback is nearly 800 pages long. It is published by Cambridge University Press and addresses most of the important areas of public choice theory. The e-book version is a fully updated book based on Mueller's Public Choice II (1989). In addition to Mueller's book, there is also an interesting but again somewhat dated survey paper on the subject by [Orchard and Stretton \(1997\)](#) available from Cambridge Journal of Economics and which can probably be obtained through our library's database. Enjoy reading it, if you wish. The goal here is not to force you to become an ardent supporter of public choice theory. Instead, it is to show you how that behavior in political institutions and government can be analyzed using rational choice models. Public choice has emerged as one of the most interesting developments in political economy in decades. We should at least look at it.

Public choice theory began in the late 1940s and early 1950s with the publication of works by Buchanan, Arrow, and Olson. These were highly theoretical works dealing with the application of rational choice models to issues usually discussed in purely political science courses. It was an extension of economics into the field of political science by way of public economics and public finance. This extension naturally grew with the growing importance of the government in everyday life. The field continued to expand steadily and by the 1970s the foundations of public choice theory had been created. Certain schools in the US became associated with the subject of public choice, such as Virginia Tech. Here is how Orchard and Stretton put things (somewhat negatively)

The distinctive elements of public choice theory were published by Americans between 1949 and 1971..the theory can be characterized as: (i) another attempt at a rigorous, axiomatic general theory of government; (ii) a vision of politics as a marketplace for individual exchanges, best understood by the use of neoclassical economic theory; or (iii) a selective analysis of political activity designed to discredit government and persuade people to reduce its scope. Most of the theorists explain most political behavior as motivated mainly or solely by individual material self-interest.

Mueller's text begins (Chapters 2 and 3) by looking at reasons why government (or collective choice) arises out of a Hobbesian state of nature – that is, everyone for himself. He uses game

theory to show that in a simple 2x2 prisoner's dilemma game (involving the binary choices of stealing and not stealing), it is in the interest of both players to cooperate and do better than the prisoner's dilemma would imply, which is both try to steal. This cooperation between the players is the motivation for creation of government. Mueller proceeds to consider externalities and redistribution as additional reasons for collective choice, apart from his first reason, which was the provision of public goods. The arguments in public choice are extremely abstract, but can be translated into somewhat contrived and simple examples from our everyday life. Indeed, this is the problem with the field of public choice – all theory and no empirical confirmation. Actually, this is a good description of all research involving game theory. Strong on theory and light on evidence.

Having shown that it is in the best interests for people to escape the Hobbesian state of nature through collective choice and cooperation, Mueller proceeds in Chapters 4-9 to discuss the defining aspects of democracy and voting, as well as its sometimes-pathologic behavior. Topics here include such things as the positive and normative aspects of majority rule, cycling, alternatives to majority rule, the core, and the theory of clubs. Some of these we consider below in less complicated fashion.

In chapters 10-18 Professor Mueller turns to more complex aspects of government including federalism, logrolling, two party competition, multiparty systems, the paradox of voting, rent seeking, bureaucracy, legislatures, and dictatorships.

In the rest of the book, Mueller considers empirical work on public choice and normative aspects of public choice theory, such as social welfare functions, the impossibility of a social ordering, utilitarianism, Rawlsian justice, and constitutions.

Overall, Mueller's book is a good introduction to public choice theory with a minimum of mathematical complications, covering most of the topics of rational choice in a simple and effective way.

Rational choice refers to maximizing utility (or some objective function) subject to a set of constraints. Utility is a mathematical way of describing the preference ordering of bundles. This means that in making decisions, actors must be able to compare all combinations of choices, at least mentally, and order them according to whether bundle A is preferred to bundle B, or bundle B is preferred to bundle A, or there is **indifference** between having bundles A or B. The constraints should be set up representing the objective, external constraints on the existence of A and B and whether these are feasible. In all cases, the actor is supposed to choose between A and B based upon (i) their feasibility, and (ii) their level of utility, e.g, $U(A) > U(B)$. This is an elaborate way of saying that people do what feasible and in their perceived best interest.

Preferences are taken as fixed. Why keep them fixed? In general, changes in preferences are considered a poor way of explaining behavior and choice, unless there is some obvious reason to see them as changing. This is because *anything* can be explained if one is willing to change preferences to suit the moment. Instead, in good rational choice theory, it is assumed that

preferences remain the same and that constraints change, leading to changes in observed behavior. If observed changes in constraints lead to observed changes in behavior, we have a good chance to verify the relation empirically. Applying this simple logic to situations and phenomena in politics is what public choice theory is all about. Thus, politics is not about great social movements, but is the outcome of individual choice made rationally at an individual level and then aggregated to achieve some purpose. It is the application of microeconomics applied to politics and international relations.

II. Some Illustrative Examples of Public Choice Theory

As promised above, we can consider the field of public choice theory using a few examples. Here are three simple examples – (i) cycling, (ii) the paradox of voting, and (iii) logrolling.

(i) Majority Vote Cycling

The two small passages below by Mueller explain clearly why that redistribution issues, in a committee consisting of a three-person committee, a \$100 expenditure divided among the three, majority rule, and the possibility of coalitions forming after the vote for a new vote on the issue, have a great likelihood for cycles **naturally** forming in voting. (page 84 of Mueller's [Public Choice III](#)).

Cycling

Given that majority rule must induce some element of redistribution into the collective decision process, we take up next an attribute of majority rule when a pure redistribution decision is to be made. Consider a three-person committee that must decide how to divide a gift of \$100 among them using majority rule. This is a pure distributional issue, a simple zero-sum game. Suppose that V_2 and V_3 first vote to divide the \$100 between themselves, 60/40. V_1 now has much to gain from forming a winning coalition. He might propose to V_3 that they split the \$100, 50/50. This is more attractive to V_3 , and we can expect this coalition to form. But now V_2 has much to gain from trying to form a winning coalition. He might now offer V_1 a 55/45 split forming a new coalition, and so on. When the issues proposed involve redistribution of income and wealth, members of a losing coalition always have a large incentive to attempt to become members of the winning coalition, even at the cost of a less-than-equal share.

The outcome of a 50/50 split of the \$100 between a pair of voters is a von Neumann-Morgenstern solution to this particular game (Luce and Raiffa, 1957, pp. 199–209). This game has three such solutions, however, and there is no way to predict which of these three, if any, would occur. Thus, the potential for cycles, when issues involve redistribution, seems quite large. It is always possible to redefine an issue to benefit one or more members and harm some others. New winning coalitions containing some members of the previously losing coalition and excluding members of the previously winning coalition are always feasible. But, as we have seen from the discussion of majority rule, when issues can be amended in the committee, any pure allocative efficiency decision can be converted into a combination of a redistribution and an allocative efficiency change via amendment. Thus it would seem that when committees are free to amend the issues proposed, cycles must be an ever-present danger.

The possibility that majority rule can lead to cycles across issues was recognized over two hundred years ago by the Marquis de Condorcet (1785). Dodgson (1876) analyzed the problem anew one hundred years later, and it has been a major concern of the modern public choice literature beginning with Black (1948b) and Arrow

(ii) The Paradox of Voting

This very famous issue in public choice is easy to state and understand, but it is devilishly difficult to solve. It is a true paradox. If there are explicit costs to voting (and there are), such as leaving work, standing in line, becoming informed about the candidates, etc., then it is not rational to vote, since your contribution to the outcome is only one vote and no major election ever hangs on the outcome of one vote. Thus, from an individual's point of view, their vote will not matter. Yet, we find that millions of people vote. This is the paradox. *Why do people vote when the costs are greater than the expected value of their vote?* If we want to explain the simple act of deciding to vote, while using a rational model, then how do we get past the paradox of voting?

As Mueller writes (pp. 305-306)

Several people have noted that the probability of being run over by a car going to or returning from the polls is similar to the probability of casting the decisive vote.⁴ If being run over is worse than having one's preferred candidate lose, then this potential cost of voting alone would exceed the potential gain, and no rational self-interested individual would ever vote. But millions do, and thus the paradox.

Professor Mueller then proceeds to explain how that many different writers have tried to deal with this paradox. He summarizes things by making reference to three major ways the rational choice model has been changed to retain the rationality hypothesis. He writes ...

There are essentially three ways around the paradox: (1) redefine the rational voter's calculus so that the rational action is now to vote; (2) relax the rationality assumption; (3) relax the self-interest assumption. All three routes have been pursued.

The first of these involves redefining what is being maximized. For example, the cost of voting may seem to be greater than the benefit narrowly defined, but suppose that the voter feels a civic duty voting and gets psychic benefits from doing so. Then it may be still true that the voter is acting rationally. It is also true that the decision to vote may depend upon what one believes will be the actions of others. This is a game theory approach, but it does not seem plausible in cases of many voters. Yet another argument involves a minmax-regret model. In this case, people do not maximize the objective, but minimize the maximum regret that may happen if they don't vote. This model has been rejected because it produces bizarre results if a detestable candidate appears and may be elected (even with an outrageously low probability of being elected).

Another explanation for the paradox of voting is that voting may not be just to get some benefit by the person being supported. Instead, people may be voting to express an opinion on a particular issue in the election and not to elect the person. Naturally, this expressive element can be treated as a benefit and the objective function again redefined.

Note how that in Brennan and Buchanan (1984) seem to eerily predict Trump's appeal to some voters fed up with US lax immigration standards – read it in Mueller's passage below

Several writers have offered a quite different interpretation of expressive voting. They claim that by uncoupling the act of voting from the outcome of the election, the existence of a low P with large electorates frees the voter to express preferences that deviate dramatically from those that she would reveal if she thought that her vote would be decisive. Brennan and Buchanan (1984) suggest, for example, that the noninstrumentalist nature of voting may lead to more irresponsible voting. The voter believes that X 's victory would be a disaster for the country. But X is the only candidate who condemns the influx of immigrants and promises "to do something about them." The voter feels threatened by the increasing numbers of immigrants and gives vent to her anxiety by voting for X , an action she would never take if she thought that X 's victory hinged on her vote.

What this says is that at least some people may have irresponsibly voted for Trump (or X) because they were making a protest about immigration, and moreover these same people would never have voted for Trump if they knew their vote would allow him to win. Expressive voting can be dangerous, since the person does not believe their vote is decisive and therefore they instead vote to make a statement about a particular issue in the election.

(iii) Logrolling

The phenomenon of logrolling is where one politician trades his vote with another politician so that both are better off. Of course, selling votes is illegal, but trading a vote on one issue for someone else trading their vote on another issue is not illegal, but may be thought immoral. In some cases, logrolling may be the only way that a majority vote can be reached. This is like cycling above. Here's a standard example taken from Wikipedia.

Table 1-1

	Agriculture	Tax	Vote	School	Tax	Vote	Fire	Tax	Vote
Tanya	\$300	\$200	Y	\$150	\$200	N	\$100	\$200	N
Alvin	\$150	\$200	N	\$350	\$200	Y	\$150	\$200	N
Rebecca	\$100	\$200	N	\$50	\$200	N	\$225	\$200	Y
Total	\$550	\$600	Inefficient	\$550	\$600	Inefficient	\$475	\$600	Inefficient

Table 1-1 depicts an example of logrolling. In the example, we have three individuals: Tanya, Alvin, and Rebecca. Tanya favors subsidies for agriculture, Alvin favors school construction, and Rebecca favors the recruitment of more firefighters. It seems as if all the proposals are doomed to fail because each is opposed by a majority of voters. Even so, this may not be the outcome. Tanya may visit Rebecca and tell her that she will vote for Rebecca's bill to recruit more firefighters so long as Rebecca votes for her policy, subsidies for agriculture, in return. Now both proposals will win because they have gained a simple majority, even though in reality the subsidy is opposed by two of the three voters. It's easy to see the Coase theorem at work in examples like this. Here, transaction costs are low, so mutually beneficial agreements are found, and the person who values the service the most will hold it. Still, outcomes may be inefficient. Mueller spends a great deal of time explaining the relation between logrolling and cycling. The Coase Theorem, is very important, but will not be discussed in this class. Neither will Pareto Optimality or the core. These are very important theoretical ideas, but will be left for next semester.

III. Is Public Choice Theory Very Practical and Useful?

Here is [Steve Mariotti](#) on public choice –

Public choice theory argues that economic self-interest is the driving force of politics. According to public choice theory, people will vote for the candidate that they believe is going to give them the greatest access to more money.

Public choice theory was developed by economist James Buchanan in [The Calculus of Consent](#), a seminal book he co-authored with Gordon Tullock in 1964. Initially, Buchanan described himself upon entering the University of Chicago's graduate economics program as a "libertarian socialist." After six weeks there,

however, he recalled later, he had become “a zealous advocate of the market order.” Buchanan later proposed a fascinating distinction between two levels of public choice:

(i) The initial level at which a constitution is written and agreed upon by the founders of a country.

(ii) The post-constitutional level, where voters can influence policy and politicians jostle for their votes.

The first level, Buchanan argued, is like setting the rules of a game, while the second is like playing the game within the rules. In 1986, Buchanan was awarded a Nobel Prize in economics for these insights.

Questions:

- #1. What is the central assertion of public choice theory?
- #2. When was public choice founded and who created it?
- #3. How is the escape from a state of nature related to the prisoner's dilemma?
- #4. How are decisions made in rational choice models?
- #5. Explain how cycling can occur with majority voting.
- #6. What is paradoxical about the paradox of voting? Can you explain the paradox?
- #7. What is the basic idea behind logrolling in situations of voting? Why must the voting be visible and known to all in order to have logrolling?
- #8. What is Condorcet's paradox and what is its significance?