I. Introduction

A. What is Public Choice?

i. Public choice is the study of political decision making using rational choice models.

ii. It attempts to understand how office holders come to hold their positions and how public policies come to be adopted.

iii. It does so using economic models of the impacts of policies on individuals, and models of individual political behavior under a variety of political institutions.

iv. The models are grounded in rational choice models from game theory and economics that represents human decision making as intentional and goal oriented.

v. That policy outcomes are endogenous is largely what distinguishes public choice and political economy from mainstream economics and classical political economy. The political decisions are rational is largely what distinguishes public choice from traditional political science.

B. Public choice theorists generally assume that all the individual involved in politics are rational and self interested economic men and women.

i. We use net-benefit maximizing and utility maximizing models to analyze how changes in economic and political constraints change individual decisions.

ii. These models are used to analyze how individuals in various institutional settings might be expected to behave: as voters, as politicians, as bureaucrats, and so forth.

iii. Many economic models assume that all men and women are income or wealth maximizers.

a. In political decisionmaking wealth and income matter, but, other broader (ideological or normative) goals matter as well.

b. These broader interests can also be included in models that take account of "self" interest.

C. Public choice is a relative new field of research.

i. The application of rational choice models began in earnest shortly after the end of World War II.

- Previous efforts had been undertaken but never caught on, as with early work by the French philosophers Condorcet and Borda in the eighteenth century.
- And, of course, the general enterprise of understanding how political institutions affect public policies and the quality of life within a given "polity" is an even older areas of research.
- Aristotle's Politics and Plato's Republic are very nice efforts to understand how political institutions work and how ideal institutions may be designed.

ii. Public choice research of the past half century or so has generated a series of logically consistent and useful tools and concepts for analyzing the properties of alternative political institutions.

a. These tools and concepts are the focus of the first half of the course.

b. The models characterize: electoral equilibrium, the behavior of bureaucracy, the political influence of interest groups, differences among democracies and between democracies and dictatorships, the logic of collective action, the importance of constitutions.

c. (As a first approximation, public choice and/or rational politics can be thought of as the application of economic models of human action to politics.)

D. Why did public choice research take off after WWII ?

i. Reasons for taking up the study of public choice varied.

ii. First, some economists become interested in models of the formation of policy, because they rarely observe the "ideal" policies that economists often recommend.

a. Such researchers attempted to analyze where the observed "less than ideal" policies come from.

b. They concluded that a very wide range of economic regulations are the result of deliberate self-interested action rather than mistakes by politicians.

c. Their approach and models contrast, for example, with principles of economics courses, where one often analyzes the economic effects of a tax

or subsidy without attempting to explain where those taxes (and other regulations) come from.

iii. Second, political scientists became interested in rational choice models of politics as they became dissatisfied with historical and broad sociological representations of political processes inside parliaments and legislatures.

a. Because democratic politics tends to be open and widely reported on, they realized that public policies emerge from a series of intentional individual choices that cannot adequately be explained using sociological or historical analysis.

b. History and sociology may still matter, but those forces can be analyzed at the level of individual decision makers.

iv. Third, sophisticated reformers realized that to make better policies required a better understanding of how political decisions and political institutions operate.

a. It was not sufficient to offer advice about how to improve public policies.

- Many polices are adopted with their economic consequences in mind, profits and losses, rather than with the Pareto criteria or maximizing social welfare in mind.
- A better understanding of politics allowed reform minded scholars to predict what sorts of policies could be passed.

b. *Many concluded that if politics reflect equilibria of self-interested persons, then institutional reform may be the only method to systematically improve policy decisions.*

c. (why?)

v. Assessing the relative merits of alternative institutions requires a clear understanding of the effects of those institutions on human behavior and political equilibria.

a. (Such analyses will necessarily be abstract--hypothetical--because it is too costly to experiment with all kinds of institutions--at least at one time and place.)

b. (History, however, provides some indirect evidence of the relative performance of alternative political institutions.)

II. Positive and Normative Political Economy

A. In areas of economics and policy dealing with public policy, it is often important to distinguish between the scientific problems of explanation and prediction and the ethical problems of evaluation and recommendation.

i. While controversy may be associated with both positive and normative analyses, the scope for disagreement is generally larger for normative than for positive analysis.

ii. It is generally easier to reach (find?) agreement about facts and predictions than it is to reach agreement about normative theories.

iii. (Moreover, the intensity of conflict over normative analysis often tends to be more intense and disagreements less subject to "dispassionate" analysis and argument.)

B. Many philosophers of science distinguish between normative and positive statements. (see for example K. Popper)

i. A **Positive Statement** is a statement about what is, has been or will be. It is a statement about the world.

ii. A **Normative Statement** attempts to evaluate the desirability of alternative states of the world.

iii. Generally, normative statements conclude that a particular policy is good or bad, is Pareto optimal or not, should be undertaken or not, etc.

a. Confusion often occurs because reasoned normative statements often include some positive statements to support their conclusions.

b. These are sometimes called consequentialist normative theories, because the norm uses consequences to determine the relative merits of actions or policies.

- E.G. Policy X is a bad economic policy *because* X increases unemployment.
- (X increases unemployment is a positive statement. However, the conclusion that X is a bad policy (or not) depends on an individual's normative theory or intuition--whether he or she believe unemployment is a bad thing or not--even if he or she fully accepts the positive claim.)

iv. Positive statements are often confused with "operational" statements.

a. **Operational statements** are statements that can at least conceptually be tested to determine whether they are true or false.

b. Not all positive statements are testable, and moreover, some normative theories allow some normative statements to be tested!

c. (Is the "big bang" theory testable? Is the "global warming" theory?)

v. Examples of positive, normative, and operational statements:

a. The moon is made of green cheese. (p, but false)

b. Minimum wage laws always increase unemployment. (p, probably true)

c. Tariffs are a bad policy because they reduce consumer welfare. (n, probably true)

d. Mass transit reduces air pollution. (p, probably true)

e. Mass transit should be subsidized because it reduces highway congestion. (n, possibly true)

f. The new EU constitution will be voted down by Ireland. (p, and tested)

C. There are many Normative Theories used to assess public policies and institutions:

i. The Pareto Criteria

ii. Utilitarian and/or Social Welfare Criteria

a. Cost Benefit Analysis

b. the Compensation Principle

iii. Natural right theories

iv. Contractarian theories

v. Communitarian theories

vi. Egalitarian theories

vii. Ideological theories of the "good " life or "good" society

viii. ecology based normative theories

III. An Introduction to the Geometry of Net Benefit Maximizing Choice

A. Nearly all economic models can be developed from a fairly simple model of rational decision making that assume that individuals maximize their private net benefits.

i. Consumers maximize consumer surplus: the difference between what a thing is worth to them and what they have to pay for it. CS(Q) = TB(Q) - TC(Q)

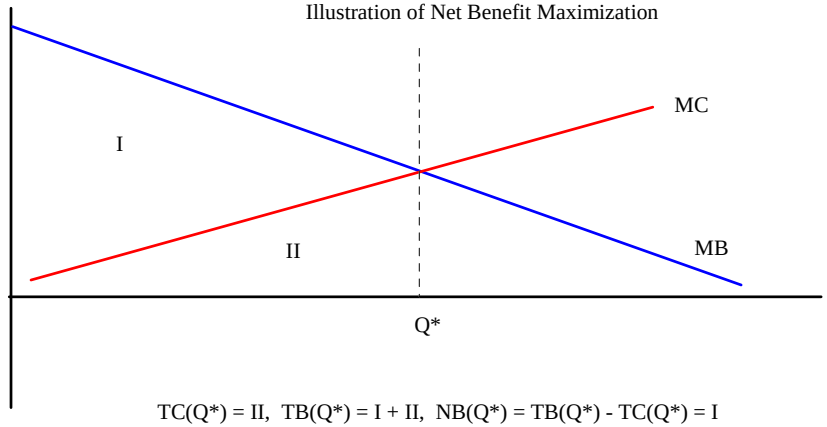
ii. Firms maximize their profit: Π = TR(Q) - TC(Q)

B. The change in benefits, costs, etc. with respect to quantity consumed or produced is generally called Marginal benefit, or Marginal cost.

i. DEF: Marginal "X" is the change in Total "X" caused by a one unit change in quantity. It is the slope of the Marginal "X" curve. "X" $\in$ {cost, benefit, profit, product, utility, revenue, etc.}

ii. *Important Geometric Property*: Total "X" can be calculated from a Marginal "X" curve by finding the area under the Marginal "X" curve over the range of interest (often from 0 to some quantity Q). This property allows us to determine consumer surplus and/or profit from a diagram of marginal cost and marginal revenue curves.

C. If one attempts to maximize net benefits, it turns out that generally you will want to consume or produce at the point where marginal cost equals marginal benefit (at least in cases where Q is very divisible).



TC(Q*) = II, TB(Q*) = I + II, NB(Q*) = TB(Q*) - TC(Q*) = I

i. There is a nice geometric proof of this. (As an exercise try to develop one, we will take this up in the next class.)

ii. Although this "marginal cost equals marginal benefit" property will be true for all net-benefit maximizing decision makers,

a. it does not imply that every person will agree about what the ideal level or output of a particular good or service might be.

b. Individuals may have different marginal benefit or marginal cost curves.

c. Both costs and benefits tend to differ with individual circumstances, tastes, and ideology.

IV. Economic Decision Making and Political Disagreements

A. Many other social scientists seem to believe that people disagree about political policies because they are more or less poorly informed. That is to say, they argue that if every one were well informed or listened to reason, everyone would agree about the "right" thing to do in a given policy area.

B. Public choice scholars would admit that this is possible, but generally assume that people are reasonably well informed but **disagree because their circumstances differ** or because they have different tastes or use different normative or ideological theories to appraise states of the world.

- That is to say, they disagree about public policies for the same reasons that they wear different styles of clothing, but different kinds of cars and bicycles, read different books, and seek out different kinds of friends.

C. Nonetheless, some general predictions about behavior in economics and politics are possible.

i. Who will be most likely to lobby for minimum wage laws?

ii. Who will be most likely to lobby for tariffs on foreign goods?

iii. Who will be most likely to lobby for subsidies for higher education?

iv. Who will prefer progressive taxation over proportional taxation (as with an income tax vs a VAT)?

V. Authors of Classic Books and Articles in Public Choice

A. Duncan Black

B. Kenneth Arrow

C. Anthony Downs

D. Gordon Tullock

E. William Riker

F. James Buchanan

G. Mancur Olson

H. William Niskanan

VI. Next time: why engage in collective action and why use governments to do so?

VII. Rational Choice and Government.

A. There are several possible explanations for the existence of government based on self interest. This lecture reviews three of them.

i. Two of the models are based on mutual advantage.

ii. One is based on coercion.

B. To begin with, there are a wide range of situations where individuals face a genuine collective problem. In such cases, achieving a privately desired result will require coordinating several person's activities in a manner that runs counter to their immediate narrow self interests.

i. The classic representation of a setting in which private decisions do not achieve the best outcome (in the eyes of the players themselves) is the **Prisoner's Dilemma**.

ii. Since each person has an interest in minimizing their own time spent in jail each has an incentive to testify against the other.

a. (Note that regardless of what the other person does, each is privately better off testifying than not testifying.)

b. Testifying is said to be the **dominant strategy** of this game insofar as it is maximizes a "player's" payoffs (minimizes his or her losses) no matter what the other person does.

c. The PD-result is said to the **Nash equilibrium** of this game. Neither player can improve his own position by changing his strategy (from testify to not testify, in this case).

iii. The dilemma is that **each would be better off if they had cooperated**, and neither had testified against the other!

iv. Of course, the classic prisoner's dilemma is good for society, even though it is bad for the prisoners themselves.

a. The greater society benefits from less expensive information about who committed a particular crime.

b. (This assumes that the two people caught are actually guilty--note that incentives to "confess" are not necessarily changed if both were actually innocent!)

c. In general, it is clear that both *participants in a PD-game would be better off if they coordinated their behavior* (agreed that neither would testify) rather than acting in their immediate self interest (and testifying against the other).

v. (Most of the PD-games of interest for this class **will not be Pareto optimal** for society at large.)

C. Of greater interest for this class are the "free rider" and "team production" problems in which an **organized group** can jointly produce some service or good more effectively than the individuals could when they are unorganized.

i.

The Free Rider Problem of Team Production and Public Goods

Al \ Bob	Cooperate (Work)	Free Ride (Shirk)
Cooperate (Work)	3, 3	1, 4
Free Ride (Shirk)	4, 1	2, 2

(Payoffs are shares of the joint output, less the opportunity cost of participating in production.)

ii. The above game matrix provides an illustration of the essential problem.

iii. Note that each person has a dominant strategy of free riding.

iv. The Nash equilibrium to this game is, thus, that both persons shirk, which causes the groups output to be very small, although each person has more leisure to use for other purposes.

v. Because the enterprise is (potentially) productive, it turns out that each person would be better off if everyone worked rather than shirked (3,3) > (2,2).

vi. (That is to say there is a Pareto Superior move at the Nash equilibrium, so the "free rider outcome" is not Pareto Efficient.)

vii. Escape from such prisoner's dilemma games will require a method of direct coordination/contract between the parties, or an external enforcer that

changes the payoffs to testifying against the other. (This tends to be true of the classic PD game as well, e. g. the "Mafia's enforcers.")

D. Two Solutions: social contracts and formeteurs

i. Escape from such prisoner's dilemma games will require a method of direct coordination/contract between the parties, or an external enforcer that changes the payoffs to testifying against the other. (This tends to be true of the classic PD game as well, e. g. the "Mafia's enforcers.")

ii. In principle the group would be willing to pay up to 2 units of output to solve the problem, because any organizational cost less than 2 would make them better off at the (work, work) outcome than at the (shirk, shirk) outcome.

iii. Notice that the **task of organization may be taken up by the group itself by negotiating a Social Contract**, under which the group agrees to create incentives for every one to work, as by creating and enforcing penalties for shirking (free riding).

a. For example a penalty of P >1 for shirking solves the dilemma

b. And the persons in the group may be willing to pay for an "enforcer" as long as it doesn't cost too much.

c. For example, they might tax themselves up to 1 unit of output each to pay for the enforcer and still be better off. (3-T, 3-T) > (2,2) as long as T<1.

iv. The task of organization may also **be undertaken by a formeteur, who forms an organization and attracts team members to join**.

a. (Congleton 2011, ch. 2)

b. In this case, the formeteur profits from forming the organization (the artificial incentive system) if he or she can impose penalties on shirking and/or reward cooperation in a manner that generates an organizational surplus.

c. For example formeteurs may use penalties like those above and "pay" team members for their contributions an amount greater than 2, keeping the penalty receipts and part of the additional output as profit (after paying for enforcement).

- For example, those working might receive 2.5 units of output each and be penalized 1.5 units for shirking.
- If the cost of monitoring and assessing penalties is .5 unit of output, the formeteurs would profit by .5 units.
- The potential profits would provide an incentive for formeteurs to create such organizations.

E. The greater the unrealized gains from team production, public goods production, or solving externality problem, the greater are the returns from creating social contracts and for formeteurs to create organizations.

a. However, as the number of persons on the "teams" increases, social contracts may be difficult to organize.

b. Formeteur costs would not be as affected, although solving the problems may become larger as the number of people that needed managing increased.

c. Thus "social" acivists may be the most likely way that organizations are founded.

F. To the extent that organizations need to adapt to changing circumstances they will need some form of decision making process, that is to say they **will need an organizational government.**

G. Note that both societies are formed by more or less voluntary association and may be said to be Pareto superior to the original unorganized (anarchic) state.

H. *The Pareto Criteria are defined as follows:*

i. Let A and B be "states" of the world (distributions of income, production, locations etc...) A is said to be *Pareto Superior* to B if and only if at least one person prefers A to B and no one prefers B to A. A Pareto superior move makes at least one person better off and no one worse off.

ii. State A is said to be *Pareto Optimal* (or Pareto Efficient) if and only if no Pareto Superior moves are possible. That is to say, a state of the world is Pareto efficient is there is no way to make one person better off without making someone else worse off.

iii. Note that in the PD game, the PD solution (Nash equilibrium) is not Pareto Optimal. *The situation where neither testified (where they cooperated with each other) is Pareto Superior to the PD result.*

a. Puzzles: how many Pareto efficient outcomes are there to the PD game?

b. Depict a "social opportunity set" in utility terms, and note the Pareto frontier and possibilities for Pareto Superior moves from within the frontier.

I. An alternative to the above voluntary associations are cases in which a person or small group conquers another group and forces them to provide resources to them.

i. In such cases, only one side of the transaction necessarily benefits: namely those doing the conquering.

a. In extreme cases, the conquerors may reduce those conquered to slavery.

b. In others, they may simply in effect "steal" or "extort" from preexisting groups by simply taking some of a groups output or demanding payment in exchange for not destroying the group or its output.

ii. Mancur Olson developed a clever version of the above in which he argued that the groups being "robbed" actually benefit when "roving bandits" are replaced by "stationary bandits."

iii. He suggests that stationary bandits have incentives to take account of the long run effects of their "taxes" and so will moderate their demands and may also provide local services that tend to increase the tax base.

iv. A shift from "roving bandits" to "stationary bandits" may, thus, be a Pareto superior move.

VIII. A Digression: Olson's Alternative Theory of the State as a Stationary Bandit

A. Before moving on, it is worth considering another theory of the emergence of the state and state services.

B. Mancur Olson notes that a good deal of what we have historically observed as governments have been significantly different than the voluntary model noted above.

C. He proposes an alternative model, based on the different incentives of what he calls "roving" and "stationary" bandits. The argument is based as follows:

i. Suppose that initially, there are a several roving bandits, each with sufficient power to sweep through a farm, village, or town, and steal what ever they want to.

a. This may be thought of as a pleasant life for the travelling bandit: of considerable riches travel and comradery.

b. Although their lifestyles might be pleasant or not, the existance of multiple groups of roving bandits creates a number of problems for the bandit groups, themselves, and also for their victems.

ii. The victems might organize for their own defense.

a. That is to say, potential victems may form a productive state, to errect high walls, and guard the gates, to keep the bandits out.

iii. If potential victems do not succeed in protecting themselves (or fail to organize) from roving bandits, **incentives for investment and saving are limited**.

a. Why save if you know that whatever you put asside for the future will be taken by a roving bandit before you get to use it?

b. Thus, farmers, merchants, and other productive people, would produce and save less than they would have in the absence of some form of protection from the roving bandits.

c. (Show this with an expected benefit expected cost diagram.)

d. Life for both bandits and their victems would be poor!

iv. Another possible escape from the roving bandit dilemma is suggested by Mancur Olson.

a. If no productive state or defense organization can be put together by the victems, it is possible that a very clever Bandit might realize that if he were to take over an area and exclude other groups of roving bandits from that area he or shee would be wealthier.

b. Rather than ten bandits "sharing" the "take" from a village in say differnt months of the year, a stationary victem can take it all.

c. This reduction in the number of other bandits is the direct advantage of being a stationary bandit.

d. **There are also indirect advantages associated with being a stationary bandit.**

e. Note that roving bandits have incentives to take all the wealth that they can lay their hands on. (There is a PD game involving roving banditry.). Anything left behind simply goes to the next bandit that comes through the village.

v. A stationary bandit profits by taking less than "all that can be carried away," because because he or she can always return another day and collect it at a later time. Taking less than "all that can be carried away" has a very important incentive affect.

a. Letting potential "victems" keep part of their harvest, livestock, gold, and so forth, of course has an effect on their incentives to accumulate such capital. Instead of expecting to lose all of their wealth to roving bandits, they now expect to be able to keep *and enjoy* at least part of it (at least for a longer time period than before).

b. This encourages potential victems to be more productive, to make more long term investments, to work harder, etc. etc. which increases the "tax revenue" that the stationary bandit can obtain.

D. Indeed, a clever stationary bandit will realize that he or she **should encourage economic growth** in "his or her" village as a means of increasing the tax base and his or her personal wealth.

i. He or she may invest in a legal system, in roads, and even in education as a method of making his village wealthier and thus a better source of tax revenues.

ii. That is to say, the stationary bandit becomes richer becasue his potential victems become richer.

a. (Show figure of a Laffer curve, linking tax/take rates with work and output level.)

b. (The incentive to provide public services can be characterized in a *diagram* that shows the "tax revenue" maximizing service level.)

c. (Note that the optimal service level varies with the tax rate.)

d. (The greater the tax rate at the margin, the greater is the "encompassing interest" of the dictator in the wealth of his domain.)

E. A stationary bandit, has what Mancur Olson calls an **encompassing interest** in the welfare (at least wealth) of his potential victems because he can profit by making them wealthier.

i. Mancur Olson, "Anarchy, Autocracy and Democracy" (1991) argues that:

ii. "The conqueror of a well defined territory has an encompassing interest in that domain given by the share of any increase in the territorial income that he collects in taxes. This encompassing interest gives him an incentive to maintain law and order and to encourage creativity and production in his domain. Much of the economic progress since the discovery of settled agriculture is explained by this "incentive."

F. (One **major problem** with the Olsonian model of dictatorship is that it ignores the security problems that dictators face. Sometimes there is a trade off between increasing the wealth and welfare of "his or her" citizenry, and the risk that "he or she" will be over thrown.)

G. The idea of an emcompassing interest is very important in other applications as well. Clearly, a person whose own direct interest is advanced whenevery "your" welfare improves will be a better representative/zar/agent than one whose interest runs at cross purposes.

i. The elected leader of a democracy may be said to have an encompassing interest in his country if his or her prospects for reelection increase as the nation prospers.

ii. A Mafia Don may have an interest in "law and order" within his domain. (Protection fees can be higher when the value of commercial activity increases.)

H. Although the smaller one's share in the fruit of a collective enterprise, the smaller is one's encompassing interest, it may also be applied to understand some behavior by individual members of a family, clan, club, interest group, or society.

i. Encompassing interest explains, for example, why some forms of employee stock options and other forms of ownership as in a cooperatives may work. (Again the encompassing interest would generally not be complete, so other incentive problems would remain.)

ii. Politically, it may partially explain why citizens often care about such abstract ideas as GNP or average income, insofar as their own income is correlated with those macro-economic variables.

iii. It may also explain, or at least help explain, some forms of publically oriented behavior by individuals in may walks of life whose interest is somehow tied to the interest of a larger organization.

iv. To some extent, voting in a democracy may also be tied to individual perceptions that the welfare of their country is enhanced by thier vote, which in turn makes them better off.

IX. Some Famous and Less Famous Quotes on the Emergence of Organization out of Individualistic Anarchy: the Productive State and the Social Contract:

A. On the nature of anarchy: from Thomas Hobbes, *Leviathan* (1651)

i. "Whatsoever therefore is consequent to time of Warre, where every man is Enemy to every man; the same is consequent to the time wherein men live without other security than what their own strength, and invention shall furnish them withal. In such condition .. the live of man [will be] solitary, poor, nasty, brutish and short.

B. From James Buchanan, *Limits to Liberty*, 1975.

i. "The state serves a double role, that of enforcing constitutional order and that of providing "public goods." This duality generates its own confusions and misunderstandings. "Law," in itself, is a "public good," with all the familiar problems in securing voluntary compliance. Enforcement is essential, but the unwillingness of those who abide by law to punish those who violate it, and to do so effectively, must portend erosion and ultimate destruction of the order that we observe. These problems emerge in modern society even when government is ideally responsive to the demands of citizens. When government takes on an independent life of its own, when Leviathan lives and breathes, a whole set of additional control issues cone into being. "Ordered anarchy" remains the objective, but ordered by whom? Neither the state nor the savage is noble, and this reality must be squarely faced.

C. From Mancur Olson, "Anarchy, Autocracy and Democracy" (1991)

i. "The conqueror of a well defined territory has an encompassing interest in that domain given by the share of any increase in the territorial income that he collects in taxes. This encompassing interest gives him an incentive to maintain law and order and to encourage creativity and production in his domain. Much of the economic progress since the discovery of settled agriculture is explained by this "incentive."

X. Making Decisions in a Productive State

A. The two voluntary association models of the state (organizations) provide a basis for theories of a productive state.

i. Under social contract theory, individuals voluntarily agree to create an organization with the power to coerce certain forms of behavior to solve various "PD" like problems of collective action and perhaps also coordinatrion problems.

ii. Under the formeteur theory, individuals vountarily join organizations that have created incentives so that such problems are overcome--albeit at a price.

a. Taxation can provide the resources necessary to finance the production of desired public goods are produced (national defense, law enforcement, transport system right a ways, etc).

b. Regulations backed by sanctions can reduce externality and commons problems (pollution, high way speeds, and so forth).

iii. Olson's theory, following Hobbes and Locke to some extent, also shows that the enforcement of property rights can mitigate "the den of theives" dilemma (the problem of over stealing or over taxing).

B. *Any durable organization will have standing methods for making collective decisions.*

i. Obviously, if a group undertakes to form an organization or state, they must also make some decisions about how collective choices will be made.

ii. In the case of a social contract such procedures are negotiationed by those creating the contract.

iii. In the case of an organization formed by formeteurs, the organizational government is chosen by the formeteurs.

iv. In the case of a stationary bandit, it is the stationary bandit that chooses the standing procedures for adopting and revising policies.

C. Note that even if there is unanimous agreement to solve a public good or team production problem, there may not be unanimous agreement about the level of service or enforcment that is appropriate, or best.

i. Majority rule is one procedure for making such choices.
   - A group may make all decisions directly by casting votes
   - Alternatively, another might unanimously agree that some person has superior ability or judgment and appoint that person or a small group to make decisions for the group.

ii. In cases in which unanimous support does not exist, these two methods can be combined by electing leaders.

iii. We will analyze implications of such procedures beginning next lecture.
   - (Other institutional features, such as replacing leaders or agenda control are also of interest and will be taken up later in the course.)