I. Introduction: Self Interest and Voting for Public Services and Taxes

A. In democracies, both public service levels and taxes are chosen by elected representatives and the bureaucracy.

B. From the public choice perspective, elected representatives and bureaucrats are assumed to be **self-interested** in the same sense that consumers and firms are in the private sector.

i. If politicians and bureaucrats are rational and self interested, one should expect them to choose the fiscal policies that maximize their own net advantages (utility) given the constraints that they face.

ii. That is to say, if one wishes to understand the pattern of tax and expenditure policies, one has to take account of the interests and incentives faced by government agents.

iii. Of course, politicians cannot simply choose any combination of expenditures and taxes that they wish, because they have to be elected to office in order to have the power to make fiscal decisions.

iv. Elections and electoral politics, thus, have important effects on fiscal policies within democracies.

v. (As we will see, electoral politics implies that one can not simply assume that tax and expenditure policies are made by some net-benefit maximizing all knowing "government," as sometimes seems to be suggested in ordinary text books.)

C. Although a wide variety of decision making rules can are used within democratic governments, we will focus our attention on implication of majority rule. (For a richer treatment, you should take a course in public choice.)

i. Examples of other voting rules that are used include:

ii. Unanimity (100% approval is required to pass new laws. Anyone can veto a new law.)

iii. Super Majority (More than 50% approval is required to pass new laws. This is required for constitutional amendments and impeachment under the US constitution.)

iv. Plurality Rule (The policy/rule/candidate with the most votes is adopted.)

v. Committee rule (A relatively small elite makes decisions, possibly by majority rule within the committee.)

vi. One person rule (Commander in Chief, Executive Mandates)

vii. (For an important first analytical examination of which voting rules work best for a given circumstance : *The Calculus of Consent*, by James M. Buchanan and Gordon Tullock.)

D. An elected government is not free to pick any policy that it wants for several reasons.

i. First, most elected officials wish to win the next election. To do that they will have to pick policies that please a majority of the voters relative to policies proposed by their rivals for office.

ii. Second , there are constitutional constraints on the types of policies that can be put in place.

a. The "takings clause" makes government pay for goods and services taken from individual citizens.

b. The "equal protection" laws imply that a law should not treat different groups differently. That is to say, laws have to be based on general principles: all firms with characteristic F are subject to environmental regulation R.

iii. Initially, we will focus all our attention on the electoral constraint because electoral competition plays a very important role in determining policy at the margin.

II. Majority Rule and the Median Voter

A. The most widely used model of majoritarian politics is the median voter model. In a variety of electoral settings, self interested behavior implies that the "median voter" will get his way.

B. For example, suppose that three individuals: Al, Bob and Cathy are to make a decision about where to eat lunch based on majority rule.

i. Al prefers a restaurant where lunch can be had for $5.00, Bob wants one where lunch costs around $10.00 and Cathy, a gourmet, prefers one costing around $20.00.

ii. For convenience assume that, given any two options, each will prefer the restaurants whose price for lunch that is closest to their preferred one.

iii. (This "spatial voting" can be shown to be the result when their marginal benefit and marginal cost curves are straight lines.)

iv. Consider some votes on various alternative spending levels:

Options	Votes Cast	Outcome
a. $10 vs. 20$	A: 10 B: 10 C: 20	10 MP 20
b. $5 vs. $20	A: 5 B: 5 C: 20	5 MP 20
c. $5 vs. $16	A: 5 B: 5 C: 16	5 MP 16
d. $10 vs. $5	A: 5 B: 10 C: 10	10 MP 5
e. $12 vs. 10	A: 10 B:10 C: 12	10 MP 12

C. *Note that Bob always votes in favor of the outcome that wins the election.* (The B column and the Outcome column are EXACTLY the same.)

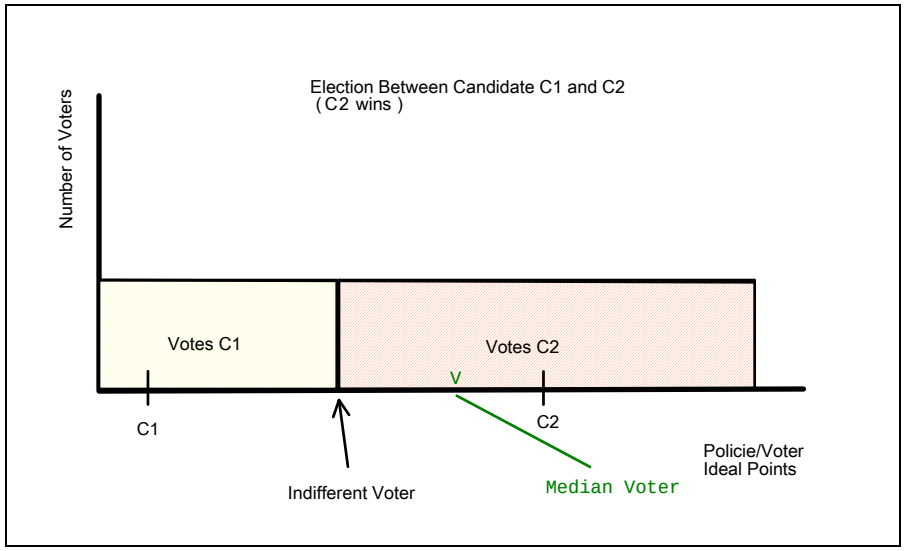
D. Note also that exactly the same number of individuals prefer a more expensive dinner as prefer a less expensive dinner than Bob. (This is the definition of a median ideal point or "preference.")

i. So, Bob is the median voter. (He is the voter with the *median* ideal point.)

ii. Note that the median voter's ideal point can beat every other possible alternative in pairwise voting.

E. The **Weak Form** of the *median voter theorem* says that the median voter always casts his vote for the policy that is adopted.

F. The **Strong Form** of the *median voter theorem* say the median voter always gets his most preferred policy. [In the example above Bob's preferred expenditure level, $10, will defeat any other policy.]



III. Electoral Competition and The Median Voter

A. The previous illustration shows that the median voter determines the electoral outcome in direct elections. We now show that the median voter is also very important in representative democracy.

B. To make our analysis of elections more straight forward, we will assume that Voters all vote for the candidate (or policy) that is "closest" to them in the policy dimension.

C. This assumption allows competition between candidates for government office can be analyzed with a diagram that shows the distribution of voter ideal points.

i. The distribution of voter ideal points can be used to form diagram with policy alternatives along the bottom (X) axis and with number of voters with a specific ideal point along the vertical axis.

ii. The area under the resulting curve gives you a number of voters.

iii. The assumption of spatial voting allows us to determine how all these voters will vote when there are two candidates or two policy options being voted on

iv. (That is to say, every voter will vote in favor of the candidate whose position is closed to their own.)

v. (Note that voters who are exactly half way between the two "alternatives" will be indifferent between them.

vi. Voters to the left of the indifferent voters will vote for the policy on the left, and those to the right of the indifferent voter will vote for the policy on the right.)

D. The illustration above assumes that candidates 1 and 2 have taken positions and that voters vote for the candidate closest to their ideal point.

i. The distribution of voter ideal points is assumed to be a "uniform" distribution.

ii. As it turns out Candidate C1 loses this election.

iii. How could he or she have done better? Clearly he or she should have chosen a policy position further to the right.

E. It turns out that the candidate who is closest to the median voter's ideal point will always win the election, because that candidate will always receive AT LEAST HALF OF THE VOTES.

F. Thus, if candidates are free to adjust their policy position to attract votes, they will each try to be closer to the Median Voter's ideal point than the other candidate.

G. In **equilibrium**, this kind of competition for votes implies that both candidates will take essentially the same position, namely that of the median voter.

i. At this equilibrium, the candidates take the same position, so they receive approximately the same number of voters.

ii. At the (Downsian) equilibrium, the median voter gets exactly what he or she wants.

*iii. That is to say the **strong from** of the median voter theorem holds!*

IV. The Median Voter and Public Policy

A. One important insight that follows from the median voter model is that the size and types of government programs that exist in democracies reflect **both** the benefit and cost sides of programs **from the point of view of the median voter.**

B. The median voter is approximately the VOTER with MEDIAN characteristics.

i. That is to say he or she is a voter of median age with median income, median education, median family size, median political ideas and so forth...

ii. Note that the median voter will not ordinarily be the same as the median member of the community because not all persons are equally likely to vote!

a. In the US it turns out that the median voter is a bit older, richer, and better educated than the median member of the group of persons eligible to vote.

b. Poor, young, and less educated person vote less frequently than older, richer, and more educated persons.

C. Consequently, policies tend to be moderate, e. g. drawn from the middle part of the political spectrum.

i. (The middle can be regarded as "moderate" essentially by definition.)

ii. Most people will be at least partially displeased with the policies chosen insofar as they have different ideal point, even in a perfectly functioning democracy, as long as peoples tastes, circumstances, or expectations differ.

iii. (Note that it is possible that most people are dissatisfied with government policy yet still prefer the use of majoritarian decision rules to any other. Explain why.)

D. To the extent that the Median Voter gets what he or she wants, anything that changes the median voter's preferred policy will affect government policy.

i. Consequently, an implication of the median voter model of electoral politics is that any change in the constraints of the median voter, the

information of the median voter, the tastes of the median voter or in the identity of the median voter will have systematic effects on the size and composition of government programs.

ii. Another implication is that, increases dispersion of the distribution of voter preferences (increased radicalism) tends to have little, if any, effect on public policies unless it affects the median of the distribution of voter ideal points. This implies that median voter policies will be more stable than average voter policies.

iii. For example, to the extent that government services are normal goods, Government services will tend to increase as the median voter becomes wealthier, as their tax-cost relative to private services decreases, and as their perceived value increases.

V. Illustration: the Mathematics of a Median Voter Model

A. The strong form of the median voter theorem implies that government policies in well-functioning democracies can be modeled as the solution to a single person's political optimization problem.

B. Such optimization problems are often very straightforward to characterize and perform comparative statics on.

i. Consequently, the median voter model is widely used to analyze the level and growth of government service levels.

ii. That model plays a significant role in both the theoretical and empirical public finance literature dealing with taxes and expenditure levels.

C. Consider electoral selection of a public services that is funded with a non-distorting "head tax."

i. Each voter in his capacity as a policy "maker" looks very much like the standard consumer in a grocery store, except that in addition to private budget constraints, he has a "public" budget constraint to deal with.

ii. Suppose that voter's have the same utility function defined over private consumption (C) and some public service (G). But suppose that each voter has a different amount of money, Wi, to allocate between C and G.

iii. To simplify a bit, assume that the government faces a balanced budget constraint, and that all expenditures are paid for with a head tax, T. Assume that there are N tax payers in the polity of interest.

iv. A typical voter's ideal policy level can be characterize as his or her utility maximizing combination of public services and private consumption.

a. $U = u(C, G)$ (objective function)

b. $Wi = C + T$ (personal budget constraint)

c. $g(G) = NT$ (public sector budget constraint)

v. Note that T can be written as $T = g(G)/N$ and substituted into the private budget constraint to make a single unified budget constraint:

a. $Wi = C + g(G)/N$

b. This in turn can be solved for C and substituted into the utility function to create an objective function with one control variable (G) that fully incorporates the effects of the personal and public budget constraints:

c. $U = u(Wi - g(G)/N, G)$

vi. Differentiating with respect to G yields a first order condition that characterizes the median voter's preferred government service level:

a. $- U_C (g_G/N) + U_G = 0 = H$ or equivalently as $U_C (g_G/N) = U_G$

b. The right hand side of the latter is the **subjective marginal benefit** (marginal utility) of the government service, the left-hand term is the subjective marginal opportunity cost of government services in terms of lost private consumption.

c. Note that the **subjective marginal cost** of the service is determined by both preferences (marginal utility of the private good C) and objective production or financial considerations, g_G/N. The latter can be called the median voter's marginal cost share, or "price" for the government service.

vii. An implication of the first order condition together with the implicit function theorem is that each voter's demand for public services can be written as:

a. $Gi^* = \gamma(Wi, N)$ that is to say, as a function of his own wealth (holding of the taxable base) and the population of tax payers in the polity of interest.

b. The implicit function differentiation rule allows one to characterize comparative statics of how changes in wealth, Wi, and number of tax payers, N, affect a voter's demand for government services.

c. Specifically $G^*_W = H_W/-H_G$ and $G^*_N = H_N/-H_G$ where H is the first order condition above.

d. Recall that solving for these derivatives requires using the partial derivative version of the composite function rule and paying close attention to the location of all the variables in the various functions included in "H," the first order condition. We find that:

$$G^*_W = [- U_{CC} (g_G/N) + U_{GW}] / -[U_{CC} (g_G/N)^2 - U_C (g_{GG}/N) -2 U_{CW} (g_G/N) + U_{GG}] > 0$$

and

$$G^*_N = [- U_{CC} (g_G/N)(g(G)/N^2) + U_C (g_G/N^2) + U_{GW}(g(G)/N^2)]/ -[U_{CC} (g_G/N)^2 - U_C (g_{GG}/N) -2 U_{CW} (g_G/N) + U_{GG}] > 0$$

e. That is to say, with head-tax finance, each voter's demand for a pure public service rises with their personal wealth and with population.

viii. Note also that since demand is strictly increasing in W, it turns out that the median voter is the voter with median income.

a. It is this voter, whose demand for public services lies exactly in the middle of the distribution.

b. The voter with median income has a preferred service level G** such that the same number of voters prefer service levels greater than G** as those who prefer service levels lower than G**.

ix. The comparative statics of a voter with median income can, in this case, be used to characterize the course of government spending through time, as other variables change (here, exogenous shocks to W or N, changes in tastes, etc.).

D. Other, somewhat richer, models can be built to analyze the effects of:

i. different tax instruments: proportional and progressive tax instruments

ii. optimal redistribution motivated by narrow self interest and/or altruism

iii. the effects of varying degrees of publicness on demand for services: club goods

iv. An very influential application of the median voter model occurred in Meltzer and Richard (1981), which provide a Spartan but sophisticated analysis of how the median voter model can be used to represent the equilibrium size of government in a pure transfer model of government policies.

E. It bears noting that **not every median voter model has unambiguous predictions** about the effects of changes in the parameters of the median voter's choice problem on the median voter's demand for a given public policy, but useful insights may be obtained about the relationships between those parameters of public policy formation are often obtained even in those cases.

VI. Some Normative Properties of Median Voter Policies

A. Although the median voter model implies that the median voter gets what "he wants," it does not imply that public policies will be efficient in the usual Paretian sense.

i. This can be seen mathematically by comparing the service level in the above model with that which would be Pareto efficient in a society of taxpayers with different tastes or wealth.

- Recall that the Pareto Efficient level can be characterized with a social welfare function, or by maximizing one person's utility while holding the other's constant.

ii. Alternatively, one can develop a graphical illustration that demonstrates that the median voter will prefer an output (or other policy level) that is Pareto inefficient whenever the median and "average" voter have different ideal points.

- (This is illustrated below for a simple Samuelsonian tax system.)

B. The median voter model developed to this point has ignored information costs faced by all voters which might lead voter's to be less than perfectly informed about their tax burdens or the benefits of public programs.

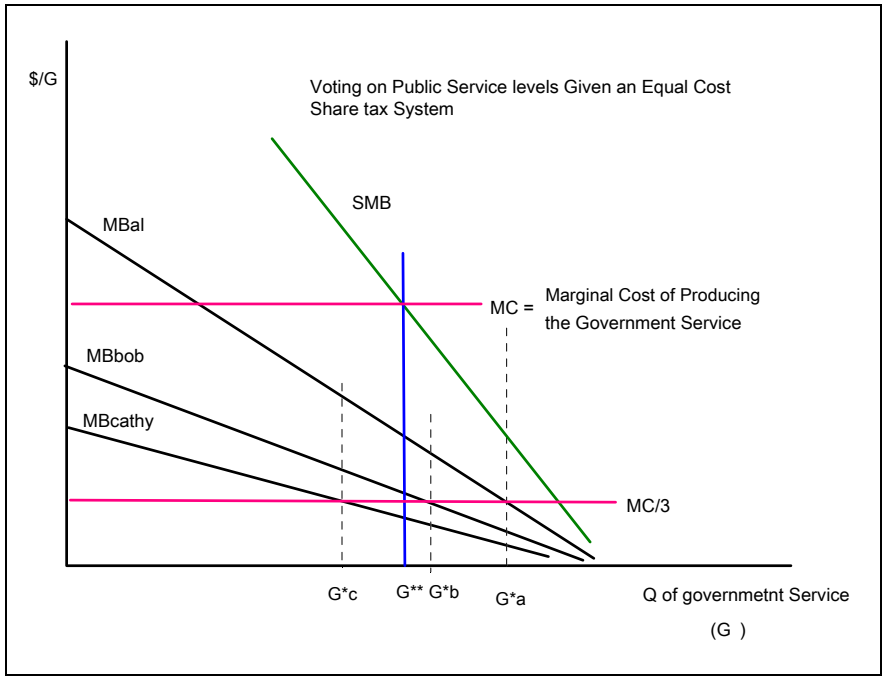
i. In the case where the median voter's expectations are unbiased, he/she will still on average get what he/she wants. (See Congleton 2007.)

ii. In cases where rational ignorance implies biased expectations about the consequences of policies (as for example when one remains entirely ignorant of some policy detail or implication) then the median voter may not even get what he/she truly wants.

C. Information problems open the door to interest groups and the bureaucracy who may manipulate voters by appropriately subsidizing various kinds of information and encourage malfeasance (agency costs, bribery) on the part of elected and unelected government officials which would be unlikely to be detected by rationally ignorant voters.

- [Essentially, the whole special interest group/rent-seeking literature is predicated on informational problems of these kinds in open competitive democratic polities.]

VII. Illustration: the Geometry of the Median Demand for Government Services under a Simple Samuelsonian tax system



A. Suppose that there are three voters, each with a somewhat different marginal benefit curve for the government service of interest (G).

i. For purposes of illustration assume that the tax system in place is an "equal share" system.

a. (Recall, that this will satisfy the Samuelsonian conditions for the Pareto efficient supply of a public services if the "right" service level is produced.)

b. Given this tax system, these there voters will all **disagree** about the optimal level of the government services.

ii. If a referenda is held to determine the service level, we know from our previous analysis that the median voter will determine the outcome.

a. (Recall that the median voter is the voter whose ideal point is exactly in the middle in the sense that there are exactly the same **number** of voters with ideal points to the left as to the right of his or her ideal point)

b. In this case, Bob is the median voter. (Why?)

iii. Thus the predicted result of democratic politics is policy Q*b.

iv. However, this is not the same as the Pareto efficient level of the public service!

a. Bob has no reason to take account of the benefits and costs imposed on other voters by his vote.

b. (Remember we assuming self-interested voting, so Bob maximizes his own consumer surplus rather than social net benefits.)

c. Q** is somewhat below Q*b.

d. And, the supply of public services will be somewhat higher than the net-benefit maximizing level of services.

v. (It is also possible for Q** to be greater Q*b--draw such a case.)

vi. What does the above result imply about fiscal policy in a direct democracy?

B. Note that the median voter's demand for services depends in part on his tax price for that service.

i. There are two reasons for this.

ii. First, the tax system may affect WHO the median voter is, because it affects the demands of all voters.

iii. Most public services are normal goods, ordinarily a wealth person will demand higher services than a poor person.

a. That is to say, a wealthy person's MB curve for a normal good tends to be higher than that of poorer persons.

b. Wealthy voters are willing to pay a higher price to have one more unit of a public service than a poor person (just as they are for ordinary private goods).

iv. However, the tax system affects what QUANTITY of services each voter wants to purchase.

a. Rich voters will generally prefer more public services than poor persons under a flat tax or under a regressive tax.

b. However, rich voters may prefer smaller public service levels than poor persons under a progressive tax.

v. It is the quantity demanded that determines a voter's ideal point, and thus who the median voter is.

vi. Second, even if a change in tax price does not affect the identity of the median voter, it will affect the quantity demanded by her.

a. For example, if one uses a flat tax to fund all services, the rank order of service demands will reflect differences in tastes and incomes of voters.

b. Generally an increase in the marginal tax rate faced by individuals for services (an increase in the tax rate) will reduce demands for services without affecting their "rank order" -- that is to say, without changing the median voter.

C. Most median voter models assume that the policy choice of interest can be mapped into a single dimension and that voters rank order candidates according to their policy positions.

i. Note that this does not require truly single issue policy choices, but requires consistent mappings into a single dimension.

ii. For example, by placing a voter on a left-right spectrum a broad range of policy issues can be analyzed.

- A voter on the left favors x, y and z, whereas a voter to the right favors policies X, Y, and Z.

iii. There is quite a bit of evidence that supports this assumption, especially the very detailed analysis of voting in the US Congress by Poole and Rosenthal (1991,1996, 2001).

- They show that around 80% of all Congressional votes can be predicted by a one-dimentional policy space.
- (And about 90% with a two dimensional policy space)

iv. The problem with multidimensionality is that as one adds issues, it becomes less and less likely that there is a true median voter.

a. As the number of relevant dimensions of public policy increase, the probability electoral cycles increases.

b. Very strong symmetry assumptions are required for the distribution of voter preferences in multidimensional issue spaces (Plott, 1967).

v. None the less, the median voter model is widely used and widely found to be a useful first approximation of public policy formation in democracies.

VIII. When Does A Median Voter Exist?

A. The median voter model was a relatively recent invention in political science, in part because the statistical properties of medians were worked out rather late and in part because anylitical political science more or less disappeared after the French Revoluiont in 1789.

B. Another possible reason why median voter models may not have been developed is that in much of the world, choosing policies with majority rule in groups that vote independently of one another is a fairly rare event.

C. In many cases, voters fall into coalaitions of various sorts who agree to vote in blocks.

i. In such cases, the median voter tends to be a member of the pivotal coalition.

ii. However, there are cases in which moderate voters may not be in the majority coalition.

D. Another reason why the median voter model may not have emerged earlier is that are policy choices in which a median voter does not exist.

i. There are several examples that can be contrived to illustrate this.

ii. Duncan Black (1948) suggests that one needs "single peaked" choices to have a median voter in one dimensional issue spaces.

iii. Kenneth Arrow (2012/1951) suggests that once one leaves a single dimension, no collective choice process will be decisive unless there is a dictator (which in the context of his classic book on collective choice, would include the median voter.)

iv. As a consequence of the Arrow and Black demonstrations the there may not be a median voter , many theorists spend many years attempting to explore how "agenda control" and "veto power" may affect outcomes in an environment where voting takes place as in the usual median voter model, but some agent controls the options voted on and the order of voting etc.

v. It can be shown that with sufficient agenda control, any outcome can be "reached" through a series of majoritarian votes (McKelvey (1976).

E. These problems are obvious in two settings: first the divide the pie game and second any two or more dimensioned issue space in which the distribution of voters is not completely symmetrical.

i. Consider the following divide the pie game: A pies is to be divided into three peieces (a, b, c) with Al getting piece "a," Bob getting piece "b," and Cathy getting piece "c."

ii. Note that there is not unique majority rule choice in this case. Any division of pie can be "beaten" by another. For example (1,1,1) loses to (1.5, 1.5, 0), which loses to (2.5, 0,0.5), which loses to (1,1,1).

iii. The latter is sometimes called a majority cycle, or the paradox of voting.

iv. Another case can be shown using two dimensional spatial voting diagrams with three persons. Even with circular indifference curves, unless the voters' ideal points are all on a straight line, there will be no median voter. (See illustration in class notes.)

F. The cycling problem may not be a problem in the real world. That is to say, policies are far more stable in contemporary democracies than those models suggest.

i. This may be because voter preferences are fundamentally one dimensional--or can be reduced to a single dimension, as with an ideological spectrum (See for example the evidence developed by Poole and Rosenthal 1997).

ii. A median may also exist if voters are distributed very symmetrically as shown by Plott (1967).

iii. Alternatively, it may be the institutions prevent cycling in various ways. Such "institutionally induced equilibria" have been suggested by, for example, Weingast and Shepsle (1981).

iv. The latter could include non-median outcomes, as when an agenda setter arranges voting patterns to assure that "his" own best outcome is the one finally chosen after a series of votes.

G. Nonetheless, it is surprising how well the median voter model seems to work as a model of general tendencies in elections and in "first approximations" of a wide variety of policy issues.

i. (Of course, those believing in interest group models can always point to cases in which the median voter does not get what she wants.)

ii. (As an excercise, discuss cases in which cycling seems to exist, or not exist. Can you explain why? How can ideology make democracy work better? How can constitutional constraints, like eminent domain laws or tax norms, reduce the probability of cycles.)

iii. Another possible explanation for the lack of cycles is that voters vote stochastically, rather than deterministically, as in the models we've explored in this class (or in most micro economic classes). See for example: Coughlin (1992).

iv. As we'll see below, even if the median voter gets what she wants, there are still problems that need to be addressed. Why do voters vote? How informed will they be? If voters are ignorant, how good can public policy be?

IX. Rational Ignorance, Fiscal Illusion, and Interest Groups

A. Informational assumptions about candidates and voters, turnout, and electoral institutions also tend to affect the character of an electoral equilibrium.

B. An implication of the median voter theorem(s) is that the median voter gets what she/he wants. However, the median voter's ability to pick the policy that is most in her (or his) interest is limited by the information, theories, and time that she (he) has available for analyzing the alternatives.

C. Analyzing the relative merits of alternative public policies is just like any other activity--voters will engage in it only up to the point that maximizes expected net benefits.

i. In most cases this occurs at the point where the expected marginal benefits of more information and more analysis equals its expected marginal cost.

ii. An implication of this (stressed by Downs and Tullock) is that voters will **rationally remain ignorant** of much useful information.

iii. They will use smaller than possible samples of data and ignore types and dimensions of information that are relatively costly to acquire and/or to analyze.

iv. [Draw a diagram (and/or write down a few equations) that illustrates the collection of information by an expected net benefit maximizing individual.]

D. A bit of rational ignorance is not a problem for democracy as long as it does not induce "biased expectations" about the benefits and/or costs of public policy.

i. As long as voter estimates of the costs and benefits of government policies are **unbiased**, they will not personally make systematic mistakes when the voter for policies or candidates.

ii. Mistakes will be made voter by voter because of the noisey (high variance) estimates, but these will tend to average out.

iii. Such unbiased estimates are most likely in areas in which the collection of information is relatively low cost.

a. In such cases, voter will collect reasonably complete data sets in the sense that all relevant details are known.

- For example, one might collect quite a bit of information about the need for road and sidewalk repairs in Morgantown by walking around town for a few days.
- (People from other towns would have to make a special trip to do so.)

b. In such cases, voters will tend to have unbiased estimates--although not perfect ones--and electoral decisions based on those estimates will *on average* advance the interests of the median voter.

E. Indeed, the electoral outcome may be better than that. As long as voter expectations are unbiased, the **Condorcet jury theorem** implies that the outcomes of majority rule implicitly "aggregates" the information in the minds of voters (by using the median of their estimates when assessing candidates or policies).

i. Note that the median voter outcome can be thought of as the median estimator for voters in the middle of the distribution of voter preferences.

ii. It turns out that median estimators are unbiased and are also robust relative to the more familiar average based estimates that we use in most econometrics.

iii. In cases in which voters make unbiased estimates--if not very informed ones -- the result of an election tends to "aggregate" the estimates and produces a better result than any individual could have on his or her own.

iv. This may be a large part of the reason that democracies have not (so far) been disasterous forms of government.

a. If policies were based entirely on what little voters know, the results would be one mistake after another.

b. Even if on average they get what they want, there would be lots of errors along the way. (Here one might imagine trying to drive to Washington DC by compass rather than with a map).

c. The modern version of the jury theorem implies that as long as voter estimates are unbiased, the results will be even better--indeed far better--than the median voter would have chosen on his or her own.

d. As a consequence, democracies have been relatively successful ones that attract persons from around the world to their territories. (For more on the Condorcet' jury theorm, see Grofman, Owen, and Feld 1982; Grofman 1986, 1995; Congleton 2007.)

F. However, the jury theorem does not improve democratic outcomes as well in policy areas in which voter have biased beliefs--possibly because of natural or rational ignorance (Congleton 2001), or self delusion (Caplan 2008).

i. If the information included in the sample is not complete, voter expectations will be biased, and the results of elections will not necessarily advance even the interest of the median voter.

ii. Moreover, the Condorcet jury theorem will not be able to avoid the mistakes that are associated with biased expectations. Such systematic errors do not just average out. (See Congleton 2007 and 2001 for more on this.)

G. When voters have biased expectations about the benefits and/or cost of public programs the are said to exhibit **Fiscal Illusion**.

i. In cases in which the median voter's expected marginal benefit from a public policy is greater than the actual benefit or her (or his) expected marginal cost is lower than the actual cost, the result will be an OVER demand for public services, relative to that which actually maximizes net benefits for the median voter.

ii. In cases in which the median voter's expected marginal benefit from a public policy is less than the actual benefit or her (or his) expected marginal cost is higher than the actual cost, the result will be an UNDER demand for public services, relative to that which actually maximizes net benefits for the median voter.

iii. It bears noting that both governments and interest groups may attempt to induce biased expectations by "subsidizing" (freely providing) information about the benefits of programs and/or "taxing" (withholding) information about the costs of programs.

iv. [Draw a diagram of the policy preferences of voters with "biased" assessments of their marginal benefits or costs, (and/or write down a few equations) and contrast the results with their actual interests.]

H. Fiscal illusion causes problems within a median voter model, because if voters are unable to accurately assess their own marginal costs and benefits they may vote for the wrong candidate and favor the "wrong" policies. (Again, for more on this see Congleton 2001, 2007.)

i. If voters make systematic mistakes, the policies chosen through elections may not advance even median voter interests.

a. Too little of services with "hidden" benefits will be provided.

b. And, too much of services with "hidden costs" will be produced.

- (Illustrate voter choice under fiscal illusion.)

ii. It also bears noting that candidate positions on issues will only affect the votes of voter who know of those issues and positions.

a. Since policies that affect one's personal income tend to be more important to most voters than other policies (except for some ideological voters), they will tend to be more informed about those issues than others.

b. Economic interests, industry by industry, may thus be given great emphasis by voters and politicians.

c. Voters typically will not know very much about specialized issues, like the tax treatment of insurance companies, the specific details of farm subsidies, the manner in which public services are produced (by whom, how and where).
   - ► Farmers will tend to know more about farm policies than non farmers.
   - ► Persons in the financial industry will tend to know more about financial regulations than those outside the industry.
   - ► Teachers will tend to know more about union regulations and budget cuts etc than non teachers.

d. As a consequence, political platforms may look like consequences of successful interest group rent seeking (see below), but may simply reflect who knows what about specific policies and the necessity of assembling majority coalitions.

I. The importance of information costs in making decisions about what to know and what to ignore implies that voters can be manipulated to some extent by strategically altering information costs.

i. Note that a good deal of what **interests groups** do is informational in nature (Congleton 1986, 1991, 2001).

a. They sponsor research and testimony of researchers in Congress and before regulatory commissions.

b. They sponsor political advertising of various kinds.

c. They sponsor academic research (in which they are often confident of the result, because of the scholars they choose to subsidize).

ii. To the extent that these informational strategies affect voter expectations about their costs or benefits, they **may induce fiscal illusion**.

J. Voter ignorance also implies that candidates for office need campaign resources to be successful.

i. If voters knew everything, campaign resources would not matter.

ii. However, voters typically know relatively little about candidate positions, and have to be informed about them in various ways.

iii. Candidates do this by subsidizing information about themselves to voters in a wide variety of ways.

K. As a consequence, it turns out that a candidate's campaign resources also affects his probability of winning an election (along with his or her policy positions).

L. Interest groups often care deeply about issues that are not very important to the median voter, and are willing to pay for policies that advance their interests--either with campaign contributions or with other sorts of support during elections.

i. This provided candidates with incentives to trade policies (especially relatively obscure ones) for campaign resources.

a. Candidates can move away from the median voter's position along dimensions of policies in which voters are ignorant at relatively little cost.

b. They may do this for ideological reasons or simply to acquire financial support (and votes) from interested voters and/or organizations.

ii. This allows interest groups to have direct effects on policy that is disproportional to the number of votes that they cast in an election.
   - ► This is the reason that **campaign reform law**s are often discussed and eventually promoted.
   - ► A wide range of voters realize that this goes on, even if they do not know what.
   - ► They demand some method of control over these deals. Politicians respond by proposing and occasionally passing legislation.

M. It bears noting that special interest politics is not just about economic issues. A good deal of campaigning and lobbying is ideological rather than economic in nature.

i. There are, partly for this reason, also "non rational" and "non instrumental" theories of voting.

ii. For example, the importance of "expressive voting" in voter behavior is not well understood at this point, but is attracting considerable attention (see for example Brennan and Hamlin 1998, 2000) or Caplan (2001, 2002).

iii. Morality, Altruism, and Ideological dimensions of voter choices are also attracting new attention from economists and rational-choice based political science.

iv. Evidently, one cannot always gather majority support simply by arguing that "you" will be better off under "my" policy than others currently being considered.

- ► However, this approach seems to work pretty well if a candidate can provide a few idealistic ideas about why your interest and that of society are actually one and the same!.

N. Another Implication of Rational Ignorance

i. The strong form of the median voter theorem, by neglecting information problems, also ignores possible "agency problems."

a. Candidates may say one thing to get elected and do something else once in office.

b. Moreover, elected representatives may not be able to fully control the bureaucracy.

ii. However, this neglect can be defended to some extent if one believes that candidates fear "fire alarms" (McCubbins and Schwartz 1984, Hopenhayn and Lohmann, 1996)).

a. Candidates that cheat voters may be discovered and their poor behavior may appear on the evening news or newspapers or bogs.

b. Similarly, elected officials that do a poor job of overseeing the bureaucracy may more likely to lose the next election than those that have not.

X. Majority Rule, Interest Groups, and Representative Governance

A. The median voter model represents a pure electoral model of policy formation in democratic governments.

- ♦ Although a very useful and powerful model, and also a quite accurate one for many purposes, the median voter model neglects the effects of interest groups and the bureaucracy on public policy.

B. Incorporating such interest groups into the model in a systematic way is more properly the subject of Public Choice than public economics, but some brief discussion of their effects is undertaken below.

i. Both interest groups and the bureaucracy can influence public policy by lobbying elected officials for particular policies.

a. When these groups are successful, the policies that we observe will depart from those preferred by the median voter toward those preferred by these "special interest groups."

b. Note, however, if voters punish politicians for putting policies in place that are different from those announced during campaigns, that this will reduce the extent to which elected officials will listen to lobbyists and bureaucracy.

ii. William Niskanan suggests that **bureaucrats** have incentives to try to **maximize their budgets** for many private reasons.

a. Larger budgets often create new opportunities for advancement, more pleasant office environments, more staff support, and, perhaps, even opportunities for travel.

b. Note that even "public spirited" bureaucrats who want to advance their agency's "mission" will also lobby for larger budgets.

c. Thus, Niskanan argues that lobbying by bureaucrats creates systematic increases in government budgets to the extent that they are successful.

d. (Illustration of bureaucratic bargaining, using all or nothing offers.)

C. The effects of other interest groups are less systematic, but in general one anticipates affects in policy areas in which benefits are substantial and concentrated so that the interest group can over come its own "free riding problem." (**Mancur Olson,** *Logic of Collective Action*)

i.