

I. There is a very large literature on democratic cycles.

- A. By far the largest of these addresses the problem of coalitional instability within democracies.
- B. There are several lines of research within this area:
- i. attempts to resolve the Arrow Impossibility Theorem,
 - ii. studies of coalitional stability (cooperative game theory)
 - iii. the rationality of majority decision making
 - iv. implication of agenda control
 - v. institutional solutions
- C. The institutionally induced equilibria literature is of special note because it shows that one does not have to be “lucky” with one’s distribution of voter preferences to use majority rule for decisions.
- D. Shepsle and Weingast (1981) includes an overview of various **procedural rules** which might generate “institutionally induced” majoritarian equilibria in cases where voter preferences are not fundamentally single dimensioned or arrayed with great symmetry.
- i. For the most part, the procedures operate by controlling the options that can be voted on (agenda control). S&W (p. 503) "focus on the manner in which institutions transform pure majority rule into a different legislative game."
 - ii. One example of a stability increasing institution is to allow only relatively large policy changes to be considered.
 - If alternatives have to be far enough from the status quo (original position) then all feasible alternatives may be beyond the win set of the status quo.
 - If the win set of X_0 [denoted $W(X_0)$] is entirely within distance d of X_0 then X_0 is stable if only proposals further than d from X_0 can be put on the agenda.
 - iii. One can also delegate complete agenda control to one person.
 - a. In this case, the agenda setter will devise a series of votes which will approach his own personal ideal point, and not allow alternatives to be voted on which would be his ideal point's win set.
 - b. Note, however, that an agenda setter has enormous control over the outcome, when a series of votes can be arranged. [illustrate].
 - iv. Policy changes may be voted on only one dimension at time.
 - a. This yields median voter outcomes in each dimension even in cases where no overall median position exists, when preferences are single peaked, as is usually implied by the standard neo-classical assumptions about tastes and is always implied by spatial voting.
 - b. A rough example of this type of rule is that Congress is supposed to pass **thirteen separate appropriation bills** each year rather than a single budget bill. (See Congleton and Sweetser, *Public Choice* 1992.)
 - v. One can restrict the number of alternatives that can be voted on: e.g. let each person add a single project to the status quo or have a time limit for revisions.
 - a. Both these methods limit the number of votes undertaken, and assure that a decision will be made.
 - b. However, it bears noting that the order of the votes will often affect that decision.
 - vi. Restrict voting to a narrow range of *discrete* alternatives. For example, Allow only votes of the following form (Fiorina 1980):
 - a. Strike a project
 - b. Add a project
 - c. Substitute one project for another
 - d. This process generates a stable equilibrium when the d cheapest projects are funded and d is the minimum # required for a winning coalition.
- E. Many institutional arrangements in the US Congress appear to be stability enhancing (although not stability assuring):
- i. Voting against the status quo *after* all amendments have been adopted. (Policy changes have to be in the win set of the status quo.)
 - ii. Having to be majority approved by a series of committees. (Policy changes have to be in the intersection of the win sets of each successive vote.)
 - iii. The committee process: since proposed alternatives must win approval within committees and by the Congress as a whole (or at least in each chamber) committees have an incentive to take account of the preferences of the entire Congress so that their preferred policies can ultimately be adopted. (Consequently, committees provide some screening of policy options for the Congress as a whole.)

- iv. Bicameralism and presidential systems also constrain the range of policies that can be adopted, because there are multiple veto players.
- With sincere voting (which is usually assumed) a policy reform must make all veto players better off relative to the status quo.
 - Often the result will be a continuation of the status quo rather than reform.
 - (Note that the effects of multiple veto players are in many respects similar to those of super majority rules, as noted in Buchanan and Tullock [1962] and Tsebelis [2002].)
- F. Institutional arrangements that constrain the process of collective choice have the effect of **reducing the domain of reform** and **protecting the status quo**, but they also **reduce the instability** of the majority rule method of collective decision making.

II. Electoral Cycles

- A. The timing of elections varies among organizations and governments. Judges are elected for life terms, Senators for 6 year terms, presidents for 4 year terms, and Congressmen for 2 year terms.
- B. In cases in which elections are held on a regular basis, there are election cycles that affect political and non-political decisions (and outcomes).
- i. This means that all the considerations that go into voter and candidate decisions repeat themselves during the electoral cycle.
- There are obvious electoral stages of choosing to run, choosing a platform, conducting the campaign etc.
 - Office holders also vote on policies, many of which bring home the bacon and reveal their competence and true platform positions.
- ii. One can imagine electoral institutions in which elections take place within different periods.
- a. For example elections could be once a week, once a month, once a year, once every two years, three years etc.
- b. Elections could be for life (kings and judges).
- c. Elections could also be performed at random (unanticipated) intervals, to reduce or eliminate their cyclic nature.

- iii. In each case, the necessity of winning an election to hold office has consequences.
- a. For example, candidates have to be determined, votes cast, and counted.
- b. In most cases, campaigns for office take place in order to inform the voters (who every they are) of the qualifications and positions of those seeking office.
- C. Several lines of research in political economy study the economic and political consequences *of election cycles*.
- These do not study problems with democratic instabilities, but rather the manner in which elections per se may affect public policies and thereby the real economy.

III. The first aspect of electoral cycles to capture the imagination of economists and political scientists was the possibility of using macroeconomic policies to influence electoral outcomes, e.g. the political business cycle.

- A. Under Keynesian or Monetarist assumptions it is possible for government to manipulate the macro economy by judiciously increasing expenditures or the money supply.
- (This is not possible in most rational expectations models, although even in those models price inertia and informative aspects of electoral outcome may have effects.)
 - In general the political business cycle models reflect “mainstream” assumptions about voting behavior and macroeconomic theory at the time the papers were written.
- B. Insofar as the policy effects generated real positive increases in voter income and voters use their personal economic circumstances as an indicator of the relative merits of the candidates running for office, voters will tend to favor incumbents that increase their income at higher than average rates.
- i. In this case, incumbents may have incentives to increase the money supply or increase the deficit a year or two before their election as a method of increasing their vote share.
- The early models assumed that voters were not very informed about incumbent policies and used their own circumstances, and perhaps that of

their neighbors, as proxies for whether the president (or other incumbent) had done a good job while in office.

- The political business cycle literature was also of interest to macro economists insofar as they provide an explanation for the macroeconomic policy “failures” of many democratic governments. (That is to say, it explained why “good” economic advice was not often taken.)
- ii. Kramer’s (APSR, 1971) study of US House of Representative elections is one of the first careful studies of political business cycles, although there were several precursors to his work (which Kramer reviews in the first part of his article).
- He find statistically significant relationships between income growth and electoral support (positive), between unemployment and electoral support (negative), and between inflation rates and electoral support (negative).
 - More or less similar results are found by Nordhaus (1975) and Hibbs (1977).
- iii. President Clinton's famous poster for members of his campaign: "its the economy stupid" was evidence that many politicians believe that “pocketbook” issues are very important in national elections.
- iv. In general, however, the results from this literature were mixed, with many studies supporting the existence of political business cycles and many others finding little evidence of such cycles. (See for example N. Beck, *AJPS* 1987, re the US Federal Reserve’s monetary policies.)
- See Paldam 1997 for a nice survey of the political business cycle literature.
 - See also Alesina, Roubini, and Cohen (1999) for a book length treatment of political business cycles, which includes a fairly complete survey of the literature.
 - Brief surveys of the literature appear at the beginnings of most pieces on political business cycles.
 - [The political business cycle literature goes from voters to office holders to public policies to economic effects (which reveal information about the candidate’s policies) to a new round of voter choice, and so forth.]
- C. The “rational expectations” literature undermined some of the implications of the early macro-political models and reduced interest in Political

Business Cycle models for about a decade (until the late 1980s) when a real political business cycle literature emerged.

- Clearly, the economic expectations of voters matter, and there is significant disagreement about the nature of the economic theories and expectations of voters.
 - Rational expectations models assume that voters/consumers/firms know all that can be known, and, consequently, have unbiased expectations about future events, including the behavior of politicians and the economic consequences of their actions.
 - Clearly, both the particular macroeconomic assumptions about how or whether an economy responds to increases in the money supply or government spending and voter behavior (expectations) determine the feasibility of political business cycles.
- D. In one strand, of the rational expectation based literature on electoral cycles focuses on the obvious, but previously neglected, fact that the party that wins an election can not be known before the election with certainty.
- Elections reveal which public policy is actually going to be used, which has real effects, because economic agents use those anticipated policies to make investment decisions and form other plans.
 - Elections will thus have small real affects that tend to be concentrated shortly after the time of elections.
 - If the policies of these two parties differ, real macro variables will change at the time one party or the other wins the election, partly because once the winner is known investors and consumers will take that information into account and change their behavior.
 - Alberto Alesina and Nouriel Roubini pioneered this approach in their 1990 RE Stud piece on “Political Cycles in OECD Economies.”
- IV. Incumbent Policies as “Signals” to Secure Re-Election**
- A. Another, interesting strand of electoral cycle research, considers macro policy to be a method of informing voters (signaling) about the competency of incumbent (elected) leaders.

- i. Elections provide voters with the opportunity to assess the competence of incumbents and replace them when they are thought to be relatively incompetent (or dishonest).
- ii. Voters use past experience to estimate the competence of their leaders., and it turns out that in equilibrium
- iii. One of the first “signaling” models of how politicians respond to electoral cycles was developed by Kenneth Rogoff in his 1990 AER paper, “Equilibrium Political Budget Cycles.”
 - Candidates and Voters are assumed to have similar utility functions define over Macro aggregates (which might be associated or allow one to predict personal income and security), but for some reason leaders care about remaining in office.
 - It turns out that incumbent candidates can gain a bit of electoral credit by manipulating macro-policy instruments just prior to (and possibly after) an election insofar as (this raise voter assessments of Incumbent competence.
 - Surprisingly, the more competent candidate runs larger deficits than less competent candidates.

B. It is useful to review some of the assumptions and architecture of signaling models, which rely upon a rather indirect, competence-based model of voter choice and political decisionmaking with less than perfectly informed voters.

- i. The Rogoff (1990) paper creates the following model:
- ii. *Consumer/Voters* are forward-looking lifetime-utility maximizing individuals:

$$\Gamma_t = \sum_{s=t}^T [U(C_s, G_s) + V(K_{s+1}) + N_s] B^{s-t} \quad (\text{pg 22, eq 1})$$

- a. C_s private consumption in period s , and equals his income less current taxes $Y - T_t$
- b. G_s is the government service level in period s ,
- c. K_s is public capital goods (parks/roads) in period s ,
- d. N_s is the "perceived quality" (attractiveness) of the incumbent (“looks” shock, pg 23 eq 5) where N_s is a random variable based = $q_t + q_{t-1}$ — which is not related to competence: his personality

- e. B is the time discount rate, which is assumed to be less than one [as with $1/(1+r)$]
- f. T is the planning horizon of the voter.
 - (C_s is simply the after tax income of the voter-consumer, who receives exogenous income, y , every “year” and pays tax T_t [eq 2, labeled technology]).
 - (The exogeneity of personal income in a model of deficits is a simplifying assumption.)
- iii. The government’s **output** of G and K are partly from tax revenue and partly from **leadership competence**, ε_t , where $G_t + K_{t+1} = T_t + \varepsilon_t$.
 - NOTE THAT COMPETENCE in the present context MEANS THE ABILITY TO PRODUCE MORE SERVICES FROM THE SAME TAX REVENUE.
 - Note also that only 3 kinds of leaders exist
 - ε_t is a random variable, the sum of $a_t + a_{t-1}$ drawn from a Bernoulli distribution (pg 23 eq 4) (Bernouli distributions have two values, so there are three levels of competence, e.g. three possible sums.)
 - (Note that this competence equation is implicitly a balanced budget constraint.)
- iv. *Leaders* have similar utility functions over goods, but also have "**ego rents**" which are derived from holding office. A leader’s utility function includes expected ego rents:

$$\sum_{s=t}^T \{X\pi_{s,t}\} B^{s-t}$$

in addition to the variables in the voter’s utility function (of eq 1)

- $\pi_{s,t}$ is the probability that this "leader" holds office in period s based on the incumbent's information set at time t
- "Ego rents" evidently do not enter into the utility function of the common man because his chances of holding office are so low (page 24)
- The leader sets government services, G_t , current taxes, T_t , and capital expenditures the produce services in the next period K_{t+1} .
- He/she is constrained to select $G_t \geq 0$, public services have to be non-negative, and taxes have to less than income $Y - T_t \geq 0$ (eq. 9)

- and also $(T_t + \varepsilon_t) - G_t \geq 0$, tax revenues plus the competence have to be equal to or greater than the cost of current government services (eq. 9).
 - Positive capital investments are encouraged by assumptions about the shape of function V which approach $-\infty$ as K approaches 0.
- v. *Elections* take place between the **incumbent and an unknown challenger** who is, in effect, **randomly drawn** from the population at large. Thus all *challengers* appear the same *ex ante*, in fact *average*.
- vi. *Information*. Voters observe $T_t, G_t, K_t, a_{t-1}, q_t, q_{t0}$ and use this information to estimate (infer) government investment K_{t+1} and the competency of the leadership, ε_t relative to the challenger, ε_t^0 .
- a. NOTE THAT *ex post*, voters will observe K_{t+1} and so be able to know how competent the candidate was in the previous period.
 - b. NOTE ALSO that **voters care about competence only because it implies that they are better off: e.g. they get more services for a given tax bill.**
 - (The unobservability, or high cost of observing K_{t+1} is the corner stone of the asymmetric information problem in Rogoff's model. If current capital spending for next period were observable, the voters *would know* ε_t from the budget constraint.)
 - Given ε_t , it is clear that voters will vote against an incumbent only if he is thought to be *below average*. since his replacement is expected to be average--ignoring "looks shock parameter N , because his/her interests are perfectly aligned with those of voters. (Why? because he/she has the same utility function, except for ego rents.)
 - Voters vote for the incumbent if they expect a higher utility from the incumbent than from the unknown opposition. (Pg 25, Eq. 7)
- vii. *The Voter Welfare Maximizing Policy* maximizes the expected utility of the voters (who in spite of all the subscripts are homogeneous)
- a. The separability of the utility function allows policies to be worked out for each government output in each period after using a substitution trick to eliminate C and K . (pg 26, eq 9)
 - b. $W(G, T, \varepsilon) \equiv U(Y - T, G) + BV(T + \varepsilon - G)$ (Recall that N is exogenous and stochastic, and represents a bias term)
 - c. (After substitution, the control variables are T and G , and derivatives with respect to T and G characterize the ideal policy at a given instant t .)
- d. The voter welfare maximum will vary with competence *and initial income* (which is assumed to be constant and *is ignored*) so $W^* = w(\varepsilon)$
 - e. This implicit function has a positive first derivative since ε operates like wealth in a conventional model. (eq 11b pg 26)
 - The competence elasticity of all goods is be positive (if they are normal goods).
 - Note that implicitly, there is a balanced budget constraint in that k_{t+1} is implicitly $T_t + \varepsilon_t - g_t$ according to the discussion on page 27.
 - ([How does the math rule out \$K \Rightarrow \infty\$? or does it?](#) A balanced budget assumption is made early in the paper (implicitly this is equation 3).]
- viii. *Casting Votes*. One votes for the incumbent if his expected competence is higher than that of the opponent (if the "looks" advantage of the opponent is small; the latter is characterized in equation 12, pg 26, with the difference in q 's.).
- a. Since competence is produced by a random draw from a Bernouli distribution (binary distribution) of high and low a 's, this can be written up in terms of the values from that distribution (as in equations 13 and 14.
 - (Note that the previous value can be calculated, but not the current value.)
 - (Although the listed rank order seems strange unless one knows that a^i is low, since there are only two possibilities: high and low competence, one naturally throws out leaders with low competency since they will deliver below average welfare.)
- ix. In the *Asymmetric information* game voters try to estimate competence from past observations of tax burden and services. (Section iii.)
- Voters are assumed to have "*priors*" about the relationship between competence and T and G .
 - If the incumbent knows the voter's estimator/priors, he can manipulate T and G to *make the estimates of W under his leadership higher* than with the W^* policies described above.
- x. Both separating *equilibrium* where incumbent clearly indicates his competency with signals (with G and T) and pooling equilibrium where one can not distinguish competent from incompetent leaders are POSSIBLE in the model.

- (Using Cho and Kreps, 1987, "intuitive criteria" one can eliminate the pooling equilibria where one can not distinguish competent from incompetent leaders.)
- xi. In the separating equilibrium, competence is identifiable from the fiscal policy.
- **In the repeated game, voter get what they expect. (The equilibrium is Bayes-consistent).**
 - *Less competent candidates set T and G at their full information welfare maximizing levels, given their competence.* (pg 27-8). They have no signaling opportunities worth exploiting.
 - **More competent incumbents can achieve a better outcome than less competent ones, but they may not set T and G at welfare maximizing levels for their competence.**
 - **Instead high competent candidates are (often) inclined to set T and K too low and G too high. Setting T lower and G higher than that which maximizes voter welfare** under a competent candidate, sometimes produces a combination of taxes and services that only a competent candidate can manage without causing $K_{t+1} < 0$.
 - (Less competent candidates would otherwise try to copy this fiscal combination *by under investing in the future*. In cases in which the latter is possible, there will **not** be a separating equilibrium.)
 - The competent candidate can produce higher $G_t + K_{t+1}$ from a given T_t than can a less competent candidate, and so can signal his/her "quality" by choosing G, T combinations that are not feasible for less competent candidates. Doing so, allows **the voter** (in the math there is just one voter!) to select the more competent candidate and achieve higher utility.
 - *The voter* is "informed" via fiscal polity to vote for the more competent leader, and **their welfare is higher than it would be under the less competent candidate, but (often) not as high as it would be in the absence of the information problem.** (*Services are (often) higher, taxes are lower, and public investment is lower than ideal in equilibrium.*)
 - [What assumptions are required for this information problem to exist? Is the assumption that K is harder to measure than G and T reasonable? How would introducing a variety of voters affect the results? How does the

beauty contest element of voter preferences affect the likelihood of separating equilibria?]

V. Election cycles have also been used to explore local policy cycles.

- A. Election cycles exist at many levels of government in federal systems and within many private organizations.
 - If voter assessments simply depend on observed or easily estimated competence, then the predictions of the fully informed median voter models tend to hold.
 - If voter assessments can be biased in a manner that favors incumbents then, manipulative strategies may pay--as politicians attempt to fool voters into believing they are more competent, honest, loyal, etc. than they really are.
- B. For example, the paper by Steven Levitt, "Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime," (AER 1997) explores the extent to which candidates for local elections may induce a political crime cycle in its pursuit of electoral victory.
- C. Levitt finds that increases in police staffing is "disproportionately concentrated in elections years" (pg 286.)
 - i. Moreover, he finds that increases in the police force significantly reduce crime rates (pg 285).
 - ii. An additional police officer eliminates between 3 and 7 violent crimes per year.
 - iii. Thus there his study implies that there is a political crime cycle.
- D. Levitt also reports that cities **hire too few police**. The benefit of an additional policeman (200k+) is far greater than their cost (80k).
 - i. The paper seems to rely on informational assumptions much like the early Political Business Cycle models, although these are not modeled.
 - Because of this, the mechanics of Levitt's cycle is by no means as elegant as that of the political business cycle or signaling literatures, in the sense that the necessary informational assumptions for such cycles are not characterized.

- The empirical work is a good example of what I call “intuitive econometrics.” (The equations estimated do not emerge from a careful model but from an intuitive (verbal) model that is assumed to be representable in more or less linear equations that can be estimated with more or less standard methods.)
- ii. Some possible criticisms:
- It is not really clear where Levitt's election data comes from.
 - Is it cheating to use demographic variables in which it is implicitly assumed that different predispositions are assumed: blacks, single parent households etc., rather than modeling those predispositions?
 - Aren't other local expenditures also linked to the electoral cycle?
 - Why don't local voters learn or care about this cycle?

VI. Other Cycles of Possible Interest

- A. There are many other political cycles that potentially can be studied.
- i. There is an enormous campaign and campaign-finance literature that explores strategic aspects of political campaigns and fund raising.
- ii. There is also a small literature on incumbent career cycles, which explore the effect that seniority has on an officeholder's ability to influence policy.
- In cases in which seniority is rewarded by more influential committee and party posts, seniority would be expected to produce an incumbent advantage.
 - Incumbents win most elections in the U. S..
 - This incumbency advantage tends to increase a candidate's ability to shift away from median voter positions, e.g. to shirk (Buchanan and Congleton 1992).
- iii. Are there are also election cycles in private firms and international organizations that may induce strategic behavior.
- A firm's management may inflate earnings to please (fool) share holders and boards of directors.

- [Can shareholders and boards of directors deal with this problem more easily than voters in ordinary elections? why?]
- iv. The optimal cycle of elections in many of these models tends to vary with the informational problems faced (and the cost of holding elections).
- Shorter or longer election cycles may reduce agency and information problems in most of the business cycle and signaling models.
 - [Is there evidence that election cycles have been optimized to address such problems?]
- B. There is also surprisingly little applied work on majoritarian cycles.
- It is possible that majority cycles influence policy outcomes (as in tax legislation).
 - It is also possible that majority cycles may undermine the performance of new democracies that have not adopted suitable institutions to avoid stability problems.
- C. Although the majoritarian and electoral-cycle literatures have faded a bit in the past ten years, there are still many interesting questions that could be further explored.