

POLITICAL CYCLES AND POLICY CONVERGENCE

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1. Introduction

Political Business Cycles (PBC) models that attempt to explain the link between macroeconomic policy variables and election timing have a long history in the economic literature. The first wave of papers combined purely opportunistic political parties, an exploitable Phillips curve and backward-looking voter behavior to show how politicians would implement expansionary policies during election years to reduce unemployment and enhance their chances to stay in office¹. A second approach focused on the opposite case of purely ideological politicians to explain the relationship between cycles and elections as a result of different politicians taking turns in office². All of these paper ignored the rational expectations hypothesis³.

Ten years later, a new group of rational expectations, game-theoretical models came to the foreground with a renewed explanation of political cycles.

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¹ Typical exponents of this first type of models are Nordhaus (1975) and McRae (1977).

² See Hibbs (1977, 1987).

³ Nordhaus (1989) presents evidence of backward-looking behavior on the side of the voters. As Alesina points out in the discussion of that paper, the rational expectations PBCs are consistent with this result.

They can be broadly divided in two groups, according to the assumption about the politician's utility function. The "partisan cycle", represented by Alesina (1987), assumes two ideological politicians with different preferred policies. The voters know the politicians' preferred policies and their chances to win and therefore maximize their own expected utility. If wages are set *à la* Fischer (1977), right after the election the winner can exploit some adjustment delay to either promote employment or to lower inflation. As contracts are renegotiated, the incumbent's ability to manipulate the economy vanishes and the variables return to their long run levels.

In the opportunistic-party type of models, as in Cukierman and Meltzer (1986), Rogoff-Sibert (1988) and Rogoff (1990), the assumption of backward-looking behavior is replaced by that of a temporary asymmetry of information between voters and politicians. In Rogoff-Sibert (1988) and Rogoff (1990), for example, politicians differ in their competency, which is observed by the voters with a lag. Since agents are homogeneous, the politicians and the voters have the same policy preferences that maximizes a well-defined welfare function but, at the same time, the politician obtains utility from being in office ("ego rents"), thus facing a trade-off between the cost of deviating from the optimum and the expected returns of staying in office. Since inflating the economy is less costly the more competent the politician is, a competent incumbent inflates to signal his own high competency.

This paper discusses a model of political cycles in which politicians are both ideological and opportunistic, and shows that, under certain conditions, during election years policies will lean towards the median voter's choice. The paper differs from the first type of models in that its results do not require any lag in the adjustment of macroeconomic variables (e.g. wages as in Alesina (1987)) and that the difference between political contenders is based in policy orientation rather than in competency (as in Rogoff-Sibert (1988) and Rogoff (1990)). The implication of the model is that, as reelection approaches, policy tends to converge to the center of the ideological spectrum. Thus, we should observe a deterioration of the fiscal position during election years (as in Rogoff and as opposed to Alesina), and changes in the mix of expenditure and tax policies that reflect the policy stance of the incumbent.

The model assumes that the economy is populated by a continuum of voters with single-peaked preferences over policies, uniformly distributed accord-

ing to their preferred policy or "type". The economy has two parties, Left (L) and Right (R), each covering a known range of types. The model introduces two sources of uncertainty, about the incumbent's type and about the location of the median voter. In every period, the incumbent is subject to a shock to his preferences that can move his type towards the median voter's (moderate incumbent) or further away from it (extremist incumbent)⁴. The shock is known by the voters at the beginning of the following period. Therefore, during the electoral year the voters can only infer the last shock from the policy implemented by the incumbent. I also assume that there is uncertainty regarding the median voter's type⁵.

Since the distribution of new candidates' types are known, in an open seat election the winner is the candidate whose expected type is closer to the median, and cycles arise as both parties take turns in office, as in Hibbs (1977, 1987). However, if an incumbent is allowed to run for reelection, he can signal his type through his policy stance during the election year. If the "ideological" cost of deviating from his preferred policy is increasing with the magnitude of the deviation, an incumbent will be more willing to deviate to signal his type and improve his chances of reelection the closer his type is to the median type. It can be proved that there exists a separating equilibrium such that a moderate incumbent of any party always signals his type by shifting his policy stance towards the median type during the election year⁶. Since the median voter's type

⁴ This change can be motivated in different ways, depending on what it is understood by ideology. If ideology is interpreted as the politician's beliefs about the effectiveness of different policies, it may be change as a result of his exposure to new information and constraints, unknown to the voters. If, on the other hand, a particular policy is the result of the interaction of different interests groups, as in Grossman and Helpman (1992), changes in the relative power of those groups will affect the incumbent's policy choice (the policy that yields the maximum pay-off to the politician). The paper will adopt this second view.

⁵ Changes in the distribution of voters' preference may be attributed, for example, to demographic changes, or changes in the economic context or the information available.

⁶ Note that the voter does not take electoral policies at face value. Since the possible types are known by the voters, a shift towards the median of, say, a right wing incumbent will indicate that the incumbent's type is closer to the median than other possible right wing types. However, the voters know that, in case he wins, the incumbent will implement a more conservative policy. In this sense, it can be said that the voter discounts electoral signals.

is not known, the outcome of the election itself is uncertain. As a result, even in a separating equilibrium an extremist incumbent has a positive probability of winning the election and therefore runs^{7 8}.

The paper is organized as follows. The next section introduces the model. Section 3 discusses the different equilibria and show that, under certain conditions, standard refinements can rule out pooling equilibria. Section 4 summarizes the results. Section 5 concludes.

2. The Model

The model economy is populated by a continuum of voters indexed by their preferred policy or type. At a particular time t , individual α 's preferences are represented by

$$E_t(U_\alpha) = E_t \left[- \sum_{s=t}^{\infty} \delta^{s-t} U(\alpha - p_s) \right] \quad (1)$$

$$U(0) = 0, \quad U' < 0, \quad U'' < 0$$

where p_s is the policy implemented at time s , δ is a time discount factor and E_t denotes expectations given the information available to the voter at time t .

At period t , voters' types are uniformly distributed around a mean α_t , i.e.

⁷ Uncertainty about the outcome leads to uncertainty about the policy to be implemented in the future. Then, under Alesina's assumptions a "partisan cycle" may still arise.

⁸ A mention should be done to Harrington (1993), where otherwise homogeneous voters have different beliefs about the efficacy of different policies. When voters' beliefs are influenced by the past policy performance, even a purely opportunistic incumbent may implement the less popular policy if he believes it to be sufficiently efficient to modify voters' preferences. In contrast, in this paper I assume that voters' types are determined by their individual economic context: all policies are in principle equally effective but have differential effects on different types of voters.

$\alpha_t \sim U[\bar{\alpha}_t \pm z]$, where z is a scalar. I assume that α_t is independently distributed. There are two parties in the economy, Left and Right (denoted by the superscripts L and R , respectively). Each party chooses a candidate according to the preferences of its partisans, whose types are uniformly distributed around their known means, $\bar{\alpha}^L$ and $\bar{\alpha}^R$, with $\bar{\alpha}^L < \bar{\alpha} < \bar{\alpha}^R$ ⁹. Every other year, a national election is held. The incumbent can run for reelection only once.

The politician's preferences at the beginning of period t are represented by

$$E_t(W_\alpha) = E_t \left[\sum_{s=t}^T \delta^{s-t} U(\alpha_s - p_s) + X_s \right] \quad (2)$$

where U is the same as in (1), and X denotes "ego rents" that are positive only when the politician is in office (the opportunistic motive).

A. Information Structure

There are two sources of uncertainty in the economy. First, there is uncertainty about the distribution of the voters' preferences. The politician has imperfect information about $\bar{\alpha}$, which under the assumption of uniform distribution of types and single-peakedness of preferences, corresponds to the median voter's choice and is all the information the politician needs to assess his chances of being reelected. At the beginning of the election year he orders a survey and gets a point estimate $\hat{\alpha}$, with known distribution $\hat{\alpha} \sim G[\bar{\alpha}, \sigma_{\hat{\alpha}}^2]$ ¹⁰.

Second, in every year in office, the politician is subject to exogenous shocks to his preferences. For simplicity, I assume that the shock may be of two kinds: towards the median voter's type (ε_M^i) with probability π , or further from it (ε_E^i) with probability $1 - \pi$, where i denotes the politician's party.

⁹ We assume that the opponent's type is known for notational simplicity. The model can be easily extended to the case where the voters know only the distribution of the opponent's possible types.

¹⁰ Time subscripts are dropped for simplicity.

To simplify notation, suppose that at the end of year $t-2$ a candidate from party R with type equal to α^R is elected¹¹. At $t-1$, his first year in office, the incumbent receives a shock ε_{t-1} that can towards the right (ε_E^R) or the left (ε_M^R) of his initial type, i.e.

$$\alpha_{t-1} = \frac{\alpha^R + \varepsilon_{t-1}}{2} \quad (3)$$

where $\varepsilon \in \{\varepsilon_M^R, \varepsilon_E^R\}$, $\bar{\alpha} < \varepsilon_M^R < \alpha^R < \varepsilon_E^R$ and $P(\varepsilon = \varepsilon_M^R) = \pi$. Voters observe ε_{t-1} only at the beginning of period t .

From t on, an incumbent's type depends only on the previous and the current shock:

$$\alpha_s = \frac{\varepsilon_s + \varepsilon_{s-1}}{2}, \quad \text{for } s > t-1. \quad (4)$$

At t , when a new election is held, the incumbent's type may assume one of three values, i.e. $\alpha_t \in \{\varepsilon_M^R, \varepsilon_M^R + \varepsilon_E^R, \varepsilon_E^R\}$. If the incumbent is not reelected, after leaving office he switches back to his original type α .¹²

Since the incumbent can be reelected only for a second period, the alternatives he faces at the beginning of the election year are the following:

1. He wins. Then, since the second is his last period in office and he has no incentive to signal a different type, he implements his preferred policy at times $t-1$ and $t-2$.

¹¹ If instead the candidate's type is not known, since he cannot signal his type, voters assign him an expected type equal to his party's median type, no matter what his actual type is.

¹² This is consistent with the interpretation that interprets the shocks as the effect of the political influence of pressure groups on the politician's own ideology.

2. He is voted out and a new incumbent of type α^L is elected. At the end of year $t + 2$, the game ends.

B. The Game

Voters' beliefs are generated on the basis of current policy p_t and the last observed shock ε_{t-1} , and take the following general form:

$$\begin{aligned} \rho &: P \times \{\varepsilon_M^R, \varepsilon_E^R\} \rightarrow [0,1] \\ \rho(p_t, \varepsilon_{t-1}) &= \rho \end{aligned} \quad (5)$$

where P is the policy space, and ρ stands for the probability assigned by the voter to the event $\varepsilon_t = \varepsilon_M^R$. Voters choose to reelect the incumbent only if they believe that his type is closer to their own than the candidate's. Thus, the strategy for the voter of type α takes the following form¹³:

$$\begin{aligned} s &: [0,1] \rightarrow \{0,1\} \\ s(\rho) &= 0 \quad \text{if } \alpha > \alpha^*(\rho) \\ s(\rho) &= 1 \quad \text{if } \alpha \leq \alpha^*(\rho) \end{aligned} \quad (6)$$

where $s(\rho)$ equals one if the voter votes for the incumbent and zero if he votes for the challenger, and $\alpha^*(\rho)$ is defined as the type that is indifferent between voting for any of the contenders if he believes that the incumbent is moderate (ε_M) with probability ρ .

¹³ Only equilibria in pure strategies are discussed in this paper.

The incumbent's problem at the beginning of period t may be expressed as

$$\begin{aligned} \max_{\{p_{t-1}^{t-2}\}} E_t(W_{a,t}) &= U(\alpha_t - p_t) + \\ &\nu \delta E_t \left([U(\alpha_{t+1} - p_{t+1}) + X_{t+1}] + \delta [U(\alpha_{t+2} - p_{t+2}) + X_{t+2}] \right) \\ &+ (1 - \nu) \delta U^e(\alpha^R) \end{aligned} \quad (7)$$

where

$$U^e(\alpha^R) = E_t \left\{ U \left(\alpha^R - \frac{\alpha_t^L + \varepsilon_{t+1}^L}{2} \right) + \delta U \left(\alpha^R - \frac{\varepsilon_{t+1}^L + \varepsilon_{t+2}^L}{2} \right) \right\}. \quad (8)$$

$$\text{and } \varepsilon^L \in \{\varepsilon_M^R, \varepsilon_E^R\}, \varepsilon_L^R < \alpha^L < \varepsilon_M^R < \bar{\alpha}, P(\varepsilon = \varepsilon_M^L) = \pi.$$

Given his information on voters' preferences and beliefs, ν is the probability assigned by the incumbent to his reelection. Under our assumption about voters' preferences, the median voter theorem applies.

Therefore, since the incumbent is concerned only with the behavior of the median voter, ν simplifies to¹⁴

$$\begin{aligned} \nu[0,1] &\rightarrow [0,1] \\ \nu(\rho) &= \Pr \left[\bar{\alpha} \geq \alpha^*(\rho) \right] = 1 - G[\alpha^*(\rho)] \end{aligned} \quad (9)$$

It is clear that the choice of p_{t-1} and p_{t+2} does not depend on p_t : if the incumbent is reelected, he will implement his preferred policy in each period so

¹⁴ Note that being a moderate is not enough to win the election: if we want to allow for the possibility of a radical to be reelected, it suffices to set π large enough to have a non-zero probability of the median being closer to a radical than to a moderate.

that $p_{t-1} = \alpha_{t-1}$ and $p_{t+2} = \alpha_{t+2}$. Then, (7) simplifies to:

$$\begin{aligned} \max_{p_t} E_t(W) &= U(|\alpha_t - p_t|) + \delta E_t \{ \nu(\rho)X + [1 - \nu(\rho)]U^e(\alpha^R) \} \\ \text{s. t.} \quad \nu(\rho) &= 1 - G[\alpha^*(\rho)] \end{aligned} \quad (10)$$

where α is the incumbent's type at t and $X = X_{t-1} + \delta X_{t+2}$.

From (10) it is clear the trade-off faced by the incumbent. The first term represents the cost of deviating today from the preferred policy. The gains from doing comes from preventing the implementation of the candidate's policy during the next office period (second term), and the future 'ego-rents' (third term)¹⁵.

The incumbent's strategy is a function of the following form:

$$\begin{aligned} p &: \{ \varepsilon_M^R, \varepsilon_E^R \} \times \{ \varepsilon_M^R, \varepsilon_E^R \} \rightarrow P \\ p(p_t, \varepsilon_{t-1}) &= p \end{aligned} \quad (11)$$

that maximizes (10). Then, an equilibrium for this game is a tuple $\{s, p, \rho\}$ such that, given the voter's beliefs ρ , s maximizes the voter's expected utility given p , and p maximizes the politician's expected utility¹⁶.

Note that $\alpha^*(\rho) < 0$, and, in particular, $G[\alpha^*(0)] = 1$ implies $\nu(0) = 0$. Thus, if the precision of the information is high enough, in equilibrium the radical type may perceive that he has no chance of being reelected and, therefore does not run¹⁷.

¹⁵ The first two terms are ideologically motivated; the last one represents the opportunistic motive.

Whenever the time subscript is omitted, the variable corresponds to the election year t .

The case in which the incumbent leaves his place to another candidate from his party is discussed in section 4.

3. Equilibria

A. Separating Equilibria

To save notation, denote $p(\varepsilon_{t-1}, p_M^R) = p_M$ and $p(\varepsilon_{t-1}, p_E^R) = p_E$.¹⁸ In a separating equilibrium, $p_M \neq p_E$. Then, Bayesian beliefs imply that

$$\rho(p_M) = 1, \quad \rho(p_E) = 0 \quad (12)$$

In a separating equilibrium, an extremist incumbent plays his preferred policy, since by definition his type is revealed and there is no gain in deviating from his "full information" strategy. Thus,

$$p_E = \alpha_t = \frac{\varepsilon_{t-1} + \varepsilon_E^R}{2} \quad (13)$$

Define

$$\begin{aligned} A &= \left\{ p: U\left(\frac{\varepsilon_{t-1} + \varepsilon_M^R}{2} - p\right) + \delta [v(1)X + [1-v(1)]U^r(\alpha^r)] > \delta [v(0)X + [1-v(0)]U^r(\alpha^r)] \right\} \\ &\equiv \left\{ p: U\left(\frac{\varepsilon_{t-1} + \varepsilon_M^R}{2} - p\right) + \delta \Delta v_{1-0} [X - U^r(\alpha^r)] > 0 \right\} \end{aligned} \quad (14)$$

where $\Delta v_{1-0} = v(1) - v(0)$.

The set A includes all the equilibrium policies from which a moderate in-

¹⁸ This implies that the analysis below assumes a particular value of ε_{t-1} . As in the case of the incumbent's party, the results can be easily generalized to all possible values of the variable.

cumbent does not deviate: given that off-equilibrium beliefs assign any other strategy a value of zero (i.e., for any other strategy voters will believe that the incumbent is an extremist).

Likewise, a set B can be defined such that it includes all the policies for which an extreme incumbent does not have incentives to deviate from his equilibrium strategy (E) and name the moderate

$$B = \left\{ p \mid U \left(\frac{\varepsilon_L^R + \varepsilon_E^R}{2} \mid p \right) \geq \delta \Delta U, \quad [X \cdot U^*(\alpha^R)] \geq 0 \right\} \quad (15)$$

Assume that beliefs off the equilibrium path are of the following form:

$$\begin{aligned} \rho(p = p_M) &= 1 \\ \rho(p = p_E) &= 0 \end{aligned} \quad (16)$$

Therefore, the set of strategies supported as a separating equilibrium by the beliefs given by (12):

$$S = \left\{ (p_M, p_E) \mid p_M \in A \cap B, \quad p_E = \frac{\varepsilon_L^R + \varepsilon_E^R}{2} \right\} \quad (17)$$

The following proposition indicates that there exists at least one separating equilibrium for this game¹⁹:

¹⁹ See proof in the Appendix.

Proposition 1 For A and B as defined in (14) and (15), if

$$X > \frac{U\left(\frac{\varepsilon_{t-1} + \varepsilon_E^R}{2} - p\right)}{\delta \Delta v_{10}} - U^e(\alpha^R) \quad (18)$$

then $A \cap B \neq \emptyset$.

In addition, it is straightforward to prove the following:

Proposition 2 The unique separating equilibrium that survives the test of equilibrium dominance (Cho and Kreps, 1987) is a strategy $S = (p_M, p_E)$ such that

$$p_E = \frac{\varepsilon_{t-1} + \varepsilon_E^R}{2} \quad \text{and} \quad U\left(\frac{\varepsilon_{t-1} + \varepsilon_E^R}{2} - p\right) + \delta \Delta v_{10} [X - U^e(\alpha^R)] = 0 \quad (19)$$

Proof: Equilibrium dominance requires that $\rho(p) = 1$, for all p in $A \cap B$ since all those strategies are equilibrium dominated for the extreme type but not for the moderate. Then, a moderate type will choose the strategy belonging to $A \cap B$ that minimizes the deviation from his preferred policy, i.e. $p_M = \max_p A \cap B$, which implies that p_M has to satisfy (19).

B. Pooling Equilibria

In the previous section, I showed that there exists an equilibrium in which the moderate incumbent has incentives to signal his type by deviating from his preferred policy towards the median voter's during election years. Although

voters know that p_M does not represent the true moderate incumbent's type, the policy provides information to infer the true type. However, there also exist pooling equilibria in which the extremist incumbent mimics the moderate to enhance his chances of reelection and policy during electoral years is therefore uninformative. Consider the following pooling equilibrium:

$$\begin{aligned} p_M = p_E = p^* \\ \rho(p^*, \varepsilon_{t-1}) = \rho < 1 \\ \rho(p) = 0, \quad \text{for all } p \neq p^* \end{aligned} \quad (20)$$

As before, define

$$\begin{aligned} A_p &= \left\{ pU \left(\left| \frac{\varepsilon_{t-1} + \varepsilon_M}{2} - p \right| \right) + \delta \Delta v_{p=0} [X - U^e(\alpha^R)] \right\} \geq 0 \\ B_p &= \left\{ pU \left(\left| \frac{\varepsilon_{t-1} + \varepsilon_E}{2} - p \right| \right) + \delta \Delta v_{p=0} [X - U^e(\alpha^R)] \right\} \geq 0 \end{aligned} \quad (21)$$

where $\Delta v_{p=0} = v(\rho) - v(0)$.

Then, the set of possible pooling equilibria strategies is characterized by $A_p \cap B_p$. However, further refinements on voters' beliefs eliminate all pooling equilibria. In particular, the following proposition establishes that no pooling equilibrium satisfies the Intuitive Criterion (IC) as defined in Cho and Kreps (1987).

Proposition 3 *No pooling equilibrium satisfies (IC).*

The intuition behind this result is similar to that behind proposition 1. The moderate candidate has the advantage of a lower utility cost of signaling today.

On the other hand, the ideological and the opportunistic motive to signal [see the third terms in (10)] are the same for both. The maximal deviation from the pooling strategy is higher for the moderate incumbent. Between them, there is a set of strategies that an extremist will not follow.

4.2. Conclusion

4.2.1. Comparative Statics

In this section I derive some simple comparative static results from the equilibrium condition (17). Denote the policy deviation during electoral years by D , such that

$$D = p_1 - \alpha'_1 \quad (22)$$

where v_1 and α'_1 are the policy implemented by the moderate incumbent and his challenger during the electoral year (recall that the extremist always plays his preferred policy). Then, it is easy to show that

$$\frac{\partial D}{\partial Y} > 0, \quad \frac{\partial D}{\partial v(1)} > 0, \quad \frac{\partial D}{\partial v(0)} < 0.$$

The policy deviation depends positively on the importance of the "ego rents" associated with being in office, since the stronger the opportunistic motive, the more the moderate incumbent is willing to go to improve his chances of reelection. The deviation also depends positively on $v(1)$ and negatively on $v(0)$, since the expected gains from signaling increase with the difference in probability of winning the election between the moderate and the extremist.

Finally, assume that the distribution G is symmetric and that $1 > v(1) > 1/2 > v(0) > 0$. Then, a mean preserving spread of the distribution (i.e. as the information about the location of the median voter gets more precise), will cause $v(1)$ to increase and, likewise, if $1/2 > v(0) > 0$, less information increases $v(0)$. Thus, the incumbent's deviation from the preferred policy during electoral years decreases (increases) as the incumbent has less (more) information about the lo-

cation of the median voter. In other words, information induces larger deviations.

B. A Digression on the Assumptions

Two simplifying assumptions on the political process need some comment. On the one hand, if an incumbent is allowed to leave his place to another candidate from his party (e.g., when his probability of winning is very low), this places an upper bound to the desutility he is willing to incur in

$$W(\varepsilon_E^R, p_{\min}) \geq \delta E_t \{ [1 - v(O)] U^e(\alpha^R) + v(O) U_O^e(\alpha^e) \} \quad (11)$$

where $v(O)$ is the probability that party R wins an open seat election, and $U_O^e(\alpha^e)$ is the expected utility of an incumbent with initial utility α^e if a candidate from his party wins the election²⁰. This can only reduce the set of policies he is willing to implement during electoral years, leaving Proposition 2 unaffected.

Second, the assumption of strict concavity of the utility function is necessary for proposition 2 to hold. However, for linear utility and $X = 0$, it can be shown that only one pooling equilibrium, namely $p_M = p_E = \frac{\varepsilon_{t+1} + \varepsilon_{t+2}}{2}$, satisfies Divinity as defined in Banks and Sobel (1987)²¹.

²⁰ A moderate incumbent will never do this, since his chances are never lower than those of an alternative candidate from his party.

²¹ See Faucher et al. (1993) for a proof that can be easily extended to the setting of this paper.

C. Optimality Considerations

As it was pointed out in the introduction, the optimality of the outcome can not be judged given the heterogeneity of preferences²². However, under certain conditions, policy convergence may lead to a welfare improvement. Assume that shocks are symmetrically distributed around the median voter's type. Define an incumbent's deviation as "reasonable" whenever

$$\left| \bar{\alpha} - p_M^R \right| \leq \left| \bar{\alpha} - \frac{\varepsilon_{L-1}^L + \varepsilon_M^R}{2} \right| \quad (24)$$

Incomplete information only modifies the policy that a moderate incumbent implements during electoral years. Due to the symmetry of the problem the expected policy, with or without complete information, coincides with the median voter's choice. If the equilibrium deviations are "reasonable" the distribution of policies during electoral years will have the same mean (namely, the median voter's choice) and lower dispersion than in the complete information environment where incumbents implement their preferred choices. Thus, if voters are risk averse with respect to policies, imperfect information and signaling imply an unambiguous gain in terms of welfare.

D. Predictions and Empirical Testing

The prediction of the model is that we will observe, on average during reelection years, an political cycle involving a shift to the left by the right wing party incumbent and to the right by the left wing party incumbent. For example, a conservative incumbent running will lean towards more social spending and lower interest rates, whereas a liberal (left wing) incumbent will implement tax cuts or lower government outlays. Accordingly, the empirical evidence is likely to be mixed. The incumbent may use a number of visible short term policy instruments (e.g., monetary policy, transfers, tax cuts, etc.) to signal his current ideological stance.

²² Unless we are willing to specify a particular social welfare function.

This is consistent with empirical tests of the “opportunistic-partisan” model,²³ that find evidence of a “loose” fiscal policy (as measured by the fiscal deficit) prior to elections, but no indication of political cycles in government expenses or revenues. Since the signal is usually intended for a target population, the instrument chosen may not be the same for each party. Whereas party *R* may seek the favor of low-income people increasing transfers, party *L* may try to appeal to high income voters by cutting taxes. In other words, there may exist a party-specific mix of electoral policies, in both cases accompanied by a more generous fiscal policy.

E. Extensions

The model presented here may be extended in a number of different ways. So far, it was assumed that the political rents of retaining office did not depend on any macroeconomic variable. It may as well be the case that the “ego rents” or the pay-off of carrying out an announced policy is positively correlated with the economic success of said policy, in which case a positive correlation between macroeconomic indicators and the magnitude of the signal should be observed (e.g., between growth rate and the change in the amount of public transfers during pre-election years)²⁴. There are other ways of setting the political process in a macroeconomic context. For example, the costs of signaling may vary with the economic situation. Alternatively, an exogenous positive (negative) shock imperfectly perceived by the voters may bias the voters’ preferences towards (against) the incumbent’s policy²⁵.

In the model, ideological motivation and preference shocks are assumed but not derived. In particular, the model can benefit from an explicit analysis of the determination of the politician’s pay-off, under the hypothesis of the existence of special interest groups²⁶. In addition the model abstracts from the

²³ See, e.g., Alesina et al. (1992).

²⁴ This is easily motivated by thinking of the politician’s “ego rents” as the satisfaction derived from recognition and popularity among his nationals.

²⁵ See Harrington (1993) for a related model along this lines.

²⁶ See Grossman and Helpman (1994) for a careful analysis of the political process in the presence of pressure groups, in a different context.

problem of how the candidate's types are decided within the parties. It would be interesting to consider explicitly the strategic behavior of each party's partisans during the internal election to nominate a candidate. My conjecture is that the inclusion of the partisans' problem at this first stage of the game will move the candidate's type closer to the median, inducing further convergence.

If we assume for a moment that there exists a minimum level of commitment between electoral promises and elections, in that failure to comply with the announced platform carries with it a reputation cost, the incumbency advantage will be negatively affected when the opponent has this (presumably more costly) way of signaling. The relationship between reputation and propaganda seems to be a potentially interesting way of allowing the opponent to play a more active role than in the present model.

Finally, current empirical studies in the PBC literature can be extended to control for the ideological position of the incumbent while analyzing separately the cyclical behavior of expenditure and revenue (and its components).

5. Conclusions

This paper has shown that imperfect information in the political process may lead to policy convergence during reelection years¹⁷. Under certain conditions, standard refinements rule out all but one separating equilibrium in which a moderate incumbent (i.e. the incumbent whose policy choice is closest to the median voter's preferred policy) to signal his type through a deviation towards the median. As opposed to other models of political business cycles, this one allows for the existence of non distorting political cycles. First, in the paper policy deviations do not imply increased policy inefficiencies, although the time frame may cause excessive reliance on short term visible instruments, possibly with a lagged negative effect on the fiscal position. Second, the paper emphasizes that whereas reelections may indeed induce a deterioration of the fiscal accounts, they may also be preferred by risk averse voters that benefit from the lower policy dispersion during reelection periods. Finally, while analyzing the

¹⁷ The analysis could be extended to elections in general by assuming that the incumbent party implements the policy, and that its partisans benefit from the party's being in office. Within this framework, reelections would only increase "ego rents", exacerbating the cyclical behavior.

economic consequences of reelections, in addition to broad variables like the fiscal deficit, the particular tax-expenditure policy mix has to be considered.

APPENDIX

Proposition 1

Proof. First, it is immediate to see that if (18) holds, $A \neq \emptyset$.

Define $p_{\max}^B = \max\{p : p \in B\}$. Then, it is easy to see that $p_{\max}^B \in A$, since by continuity of preferences.

$$\begin{aligned} U\left(\left[\frac{\varepsilon_{t-1} + \varepsilon_E^R}{2} - p_{\max}^B\right]\right) + \delta \Delta v_{t-1} [X - U^c(\alpha^R)] = 0 &\Leftrightarrow \\ \Leftrightarrow U\left(\left[\frac{\varepsilon_{t-1} + \varepsilon_M^R}{2} - p\right]\right) - \delta \Delta v_{t-1} [X - U^c(\alpha^R)] > 0. \end{aligned} \quad (25)$$

Proposition 2

Proof. First note that a pooling equilibrium strategy p has to satisfy $p \in A_p \cap B_p$ which, by definition of B_p implies

$$U\left(\left[\frac{\varepsilon_{t-1} + \varepsilon_E}{2} - p\right]\right) + \delta \Delta v_{p,t} [X - U^c(\alpha^R)] > 0 \quad (26)$$

Moreover, from (10) we know that, for $j = M, E$,

$$W(\varepsilon_j, p) = U\left(\left[\frac{\varepsilon_{t-1} + \varepsilon_j}{2} - p\right]\right) + \delta \left\{v(p)X - [1 - v(p)]U^c(\alpha^R)\right\} \quad (27)$$

Define

$$\begin{aligned} \Delta W(\varepsilon_j, p', p) = & W[\varepsilon_j, p' | \rho(p') = 1] - W[\varepsilon_j, p' | \rho(p) = \rho] = \\ & U\left(\left[\frac{\varepsilon_{L+1} + \varepsilon_L}{2} - p'\right]\right) - U\left(\left[\frac{\varepsilon_{L+1} + \varepsilon_L}{2} - p\right]\right) + \delta \Delta U_{j,p'}[Y - U^*(\alpha^R)] \end{aligned} \quad (28)$$

By continuity of preferences, we know that as long as $\Delta U_{j,p'} > 0$, for all p , there exists $p - p$ such that $\Delta W(\varepsilon_j, p', p) > 0$. To prove the proposition it suffices to show that there exists some p such that

$$\begin{aligned} \Delta W(\varepsilon_M, p', p) &> 0 \\ \Delta W(\varepsilon_R, p', p) &< 0 \end{aligned} \quad (29)$$

Define $p^*(p)$ such that $\Delta W(\varepsilon_E, p^*, p) = 0$. Note that, for any pooling equilibrium p , p^* represents the furthest to the left that an extremist incumbent is willing to deviate if by doing so he ensures that the voter will believe he is a moderate. But from (1), we know that $U'' < 0$, which implies that

$$\frac{\partial \Delta W(\varepsilon_E, p^*, p)}{\partial \varepsilon} = U'\left(\left[\frac{\varepsilon_{L+1} + \varepsilon_E}{2} - p^*\right]\right) - U'\left(\left[\frac{\varepsilon_{L+1} + \varepsilon_E}{2} - p\right]\right) < 0 \quad (30)$$

Therefore, by continuity of preferences there exists $p^* < p^*$ such that (29) holds.

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POLITICAL CYCLES AND POLICY CONVERGENCE

SUMMARY

This paper presents a model of elections with heterogeneous voters and asymmetric information about the incumbent's type, in which signaling in electoral years leads to policy convergence. Politicians face both ideological and opportunistic motivations while choosing a policy. Moderate incumbents implement policies that balance the costs of deviating from their preferred policy and the gains from their increased chances of reelection. Using standard equilibrium refinements, conditions are obtained under which the unique equilibrium is separating in policies. Under certain conditions, risk averse voters benefit from the lower dispersion of policies during electoral years.

CICLOS POLITICOS Y CONVERGENCIA DE POLITICA

RESUMEN

Este trabajo presenta un modelo de elecciones con votantes heterogéneos e información asimétrica sobre el tipo de funcionario, en el que la señalización de los años electorales conducen a una convergencia de política. Los políticos enfrentan motivaciones tanto ideológicas como políticas al elegir una política. Funcionarios moderados implementan políticas que equiparan los costos de desviación de su política preferida y los beneficios de su incremento en la posibilidad de re-elección. Utilizando refinamientos de equilibrio estándar, se obtienen las condiciones bajo las cuales el equilibrio único es dividido en políticas. Bajo ciertas condiciones, los votantes con aversión al riesgo se benefician de una menor dispersión de políticas durante años electorales.