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*A Bayesian Retrospective Model of Electoral Choice:
Limited Electoral Accountability and Dominant Party
Systems*

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Abstract

This paper argues that transitions in dominant party systems can not be thoroughly understood without paying close attention to the electoral arena because dominant parties, opposite to what happens in authoritarian military regimes, compete as legitimate players in each and every electoral round. I will explain, by providing a model of electoral choice, why defeating a long-lasting incumbent dominant party is extremely difficult even where votes are counted fairly and no significant institutional barriers to entry of opposition parties remain. This model is built upon existing models of economic voting and electoral accountability, in which the voters behave rationally by rewarding incumbents for prosperity and punishing them for recession. In dominant party systems punishing the incumbent, however, involves non-trivial risks given that the alternative is an unknown challenger, which has never been in office. The model hence shows the implications of an imperfect electoral market –that of dominant party systems- on economic voting and electoral accountability.

Síntesis

Este ensayo afirma que la transición de los sistemas de partido dominante no puede ser entendida sin poner atención al ámbito electoral, ya que en este tipo de regímenes, a diferencia de los militares, el partido en el gobierno compite como un jugador legítimo en elecciones periódicas. Explicaré, a partir de un modelo de elección racional, por qué es extremadamente difícil derrotar a un partido que se ha mantenido en el poder durante un largo período, aun cuando exista un adecuado conteo de votos y no permanezcan barreras institucionales a la entrada de partidos de oposición. Este modelo está construido sobre los modelos existentes de voto económico, en los que los votantes se comportan racionalmente para recompensar al partido gobernante en caso de prosperidad y castigarlo cuando existe una recesión. En sistemas de partido dominante, el castigar al partido en el gobierno involucra riesgos importantes, dado que la alternativa es un competidor desconocido, es decir, sin experiencia de gobierno. El modelo muestra entonces las implicaciones de un mercado electoral imperfecto (aquel de sistemas de partido dominante) en voto económico y rendición de cuentas electorales. Finalmente, el ensayo muestra que el partido en el gobierno es más resistente a las evaluaciones económicas retrospectivas.

Frequent and competitive elections constitute crucial mechanisms for controlling governments and holding them accountable to voters. Through elections voters can, on the one hand, reward and punish government performance, and on the other, influence the direction of public policy by selecting among competing party platforms. If political parties anticipate the behavior of voters, they will face incentives to give the electorate what it wants. In particular, if incumbents know that voting behavior is largely influenced by retrospective evaluations on the performance of the economy, they must concentrate their efforts on delivering economic prosperity or otherwise they will be punished at the next election.

If voters reward incumbents for prosperity and punish them for recession, two important implications about the relationship between the economy and democratic politics emerge: 1) incumbents will hardly survive an economic crisis; and 2) incumbents will face incentives to manipulate policy instruments -such as the monetary base and different components of the budget- before the elections. The literature on electoral business cycles is vast. As it has been summarized in Alesina *et. al* (1993), the literature developed on two separate phases. The seminal article was Nordhaus (1975), who formalized the idea of an opportunistic political business cycle by assuming an exploitable Phillips curve over inflation and unemployment coupled with myopic voters who decided to cast their votes under the basis of economic performance just before the elections. Such a model was criticized on two grounds. At the theoretical ground, the "rational expectations revolution" questioned the idea that voters are myopic and the existence of an exploitable trade-off between inflation and unemployment. On the empirical ground, the literature inspired by Nordhaus (1975) was far from conclusive. In response to both critiques, in the late eighties a new generation of "rational political business cycles models" emerged. Models such as Cukierman and Meltzer (1986), Rogoff and Sibert (1988) and Persson and Tabellini (1991) have different empirical implications from those of Nordhaus (1975). In

particular, these models suggest that although observable output and unemployment cycles are not likely to occur, nevertheless "pre-electoral manipulations of policy instruments for 'signaling' purposes are likely to be the norm, rather than the exception" (Alesina *et. al.*, 1993: 3).¹

Much less research exists on the relationship between electoral politics and the economy in developing countries. The most important contribution is by Barry Ames (1987), who systematically explores the impact of public spending for the "political survival" of both democratic and military regimes in Latin America. In Ames' view, Latin American governments are not so capable of using macroeconomic fine-tuning as a survival strategy, but instead they use trade-offs among specific programs in their budgets to construct governing coalitions (Ames, 1987: 229-230). This is partly consonant with the "new political business cycles" literature cited above, in that politicians manipulate policy instruments rather than economic output or unemployment. Nevertheless, in Ames' analysis political manipulation of policy instruments broadly applies to any type of survival imperative, not only to electoral survival, as in the political business cycles literature.

More recently, Karen Remmer (1991) directly explored the relationship between the economy and electoral politics by examining the effects of the debt crisis on electoral outcomes in most Latin American countries from 1982 to 1992.² Remmer found that "elections held under conditions of economic crisis in Latin America consistently produced losses for governing parties. Moreover, in

¹ Although the empirical evidence on manipulation of policy instruments is also mixed, many findings support the idea of different forms of electoral manipulation of policy instruments. See the relevant literature in Alesina *et al* (1993). See also Keech (1995) for one of the best discussions of the existing literature.

² Alesina *et.al.*, (1996) have studied the impact of budget institutions in the budgetary processes of most Latin American countries. This significant contribution is, however, not directly associated with electoral politics, as that by Remmer (1991).

the overwhelming majority of the cases, elections resulted in the defeat of the governing party or coalition" (p. 781). Her second important finding is that, contrary to much of what the political economy literature had said about the relationship between economic crisis and democracy (i.e., O'Donnell, 1973, 1978; Collier 1979, Remmer and Merckx, 1982), the debt crisis was not associated with regime collapse or the emergence of political extremism. On the contrary, "Latin America's worst economic crisis since the Great Depression coincided with the most profound wave of democratization in the history of the continent" (p. 779).

Remmer's findings are consistent with the empirical implications derived from the models advanced by the political business cycles literature. In addition, her analysis raised an important theoretical question regarding the relationship between the recession of the 1980s and politics in new democracies. It made transparent that where competitive elections took place, the political effects of the economic crisis were limited to incumbent electoral loss and to alternation of political party in office. Instead of opposing the regime, voters in Latin American new democracies could vote the incumbent party out. Actually, the economic crisis of the 1980s was associated with regime collapse *only* in cases where an authoritarian military regime presided over the recession. In these regimes, the economic recession had the effect of triggering the withdrawal of the military and the transfer of political power to civilian rulers (see, for example, Haggard and Kaufman, 1993).

Among developing country regimes, dominant party ones proved to be the least vulnerable to the economic recession: neither alternation of power nor regime collapse came as a result of the recession. When studying the stability of developing world dominant parties, most authors focus on what they call the "authoritarian" nature of these systems. Haggard and Kaufman (1993), for

instance, argue that in Taiwan and Mexico "opposition parties face legal and institutional barriers that eliminate *any* significant probability that they could take office" (the emphasis is mine p. 266). This assessment is incorrect in both cases. Neither in Taiwan nor in Mexico is it still the case that opposition parties are constrained from organizing or that they possess *no real* possibility to take office when winning elections. Remmer also classifies Mexico as an authoritarian regime arguing that "by the early 1990, [...] every authoritarian regime in the hemisphere had been displaced from power with the exception of Mexico and Cuba" (p. 779), and excludes it from her analysis by arguing that it "failed to hold competitive elections" (p. 780). Perhaps Mexico's elections were not as competitive as those she was studying, but the debt crisis cost the PRI at least 20% of its electoral support, which only confirms her overall findings - of course with the caveat that in Mexico no alternation of power took place.

Clearly, neither in Mexico nor in Taiwan are the electoral arenas levels. In each case the dominant party possesses an impressive incumbency advantage for it can exercise a strong control of elections and state resources to buy-off electoral support. Opposition parties thus face significant barriers to entry; but these barriers are no longer the product of regime coercion or significantly skewed institutional rules, as Haggard and Kaufman (1993) imply. In fact, by the early 1990s in both countries significant institutional reforms had taken place and their electoral rules became more democratic than ever - and their dominant parties still remain in power.³

³ There are two key tests of democracy: a) are opposition parties free to compete under a set of rules that are not unilaterally imposed by the dominant party? and b) would the dominant party be willing to hand over political power to an opposition party if it lost the national elections? The first "test" can be evaluated by studying, for example, electoral rules (e.g., are they impartial? Are there fair mechanisms for solving electoral disputes?). Unfortunately the second "test" can only be observed if and when it happens.

To explain the electoral resiliency of Taiwan's Kuomintang one has only to observe the impressive growth rates it has delivered. If voters reward and punish incumbents, it is not surprising that they have *chosen* to keep a party that for decades has proven to be so successful. But one could not necessarily provide the same performance explanation regarding the electoral survival of the Mexican PRI. The PRI produced several and consecutive years of economic growth: during the years of the so-called "economic miracle" (from 1940 until the late 1960s), Mexico grew at an annual average rate of 6%. The Mexican economy started to experience the first signs of mild economic distress in the early 1970s. Through that decade, growth not only became much more erratic -ranging from around 3% some years to around 8% during the years of the oil boom- but the non-inflation years appeared to be over. Finally, in the 1980s (and again in 1995), the Mexican economy suffered all the malaises of the economic crisis experienced by the same Latin American countries studied by Remmer: high inflation rates, negative growth rates, currency devaluation, decreasing real salaries, increasing underemployment in the cities, etc. Nonetheless, through today, the PRI still enjoys high levels of electoral support.

To explain the electoral resilience of the PRI, the literature on Mexican politics normally explores issues such as the symbiotic relationship between the party and the state apparatus (Molinar, 1991); the existing mechanisms for co-opting and controlling social groups (Cornelius, 1975; Kaufman, 1977a and 1977b; Reyna and Weinert, 1977; Dresser, 1991; among others) or the impact of the Mexican political culture on regime durability (Segovia, 1975; Alduncin, 1986; Medina and Navarro, 1987). Paradoxically, few authors have attempted to understand the PRI's *electoral* durability from the voter's point of view.⁴

⁴ The work by Dominguez and McCann (1996) is perhaps the only existing in-depth study that has analyzed the Mexican transition from the voter's point of view.

This paper argues that transitions in dominant party systems cannot be thoroughly understood without paying close attention to their electoral arenas. The most distinctive characteristic of dominant party system's transitions relative to authoritarian military regimes is that they take place *in the electoral arena* where the party associated with authoritarianism competes and must be defeated *through the ballot box*. Military regimes usually negotiate their retreat before the founding elections take place and once the process of "liberalization" appears to be out of control (Przeworski, 1991). Dominant parties, on the contrary, compete as legitimate players in each and every electoral round. Defeating a long-lasting incumbent dominant party, including the loss of its hegemony, is extremely difficult even where votes are counted fairly and no significant institutional barriers to the entry of opposition parties remain. This paper will explain why this is the case by providing a model of electoral choice in dominant party systems. The model builds upon existing models of economic voting and electoral accountability: voters behave rationally by rewarding incumbents for prosperity and punishing them for recession. In dominant party systems punishing the incumbent, however, involves non-trivial risks given that the alternative is an unknown challenger, which has never been in office. The model hence shows the implications of an imperfect electoral market - that of dominant party systems - on economic voting and electoral accountability. Under some circumstances, rational voters are shown to tolerate an incumbent that has failed to deliver economic prosperity.

Retrospective Voting in Dominant Party Systems

There are two different interpretations of economic voting. The first holds that voting is purely retrospective, meaning that when deciding to cast a vote, voters look only to the past, rewarding or punishing the performance of the

incumbent without considering which are the expected benefits from the alternatives (V.O. Key, 1966). This interpretation of economic voting would predict, for example, massive defections from the incumbent in times of economic crisis. Most formal models of electoral accountability build on the assumption that rational voters employ a retrospective rule (see, for example, Ferejohn, 1986; Barro, 1973). For instance, in Ferejohn's model (1986), a simple retrospective rule is sufficient to produce the desirable effect: the popular control of politicians by the electorate. The author shows that if voters utilize such decision rule, accountability results in so far as the electorate can act in a unitary fashion and, more important for the purpose of this paper, there exists a set of challengers waiting to assume office should the incumbent fail to perform adequately. Ferejohn results do not hold in less competitive party systems. However, the author argues that non-competitive electoral markets emerge mainly due to "the presence of entry restrictions on office holding" (p. 23) and believes that one-party states might indeed embody such mechanisms maintaining "collusive opportunities for officeholders of the established party" (p. 23).

Since in most formal model challengers play no role - save for their availability - they can't explain why some electoral markets are imperfect even in the absence of significant institutional restrictions to entry. The model here developed explains that limited electoral accountability results from imperfect electoral markets - imperfect in the sense that information is highly asymmetric. Unknown challengers might be available but not *preferred* by voters precisely because they are unknown.

The second interpretation of economic voting is more future oriented. In Downs' (1957) framework, voters look to the past to construct their forecasts for the future and base their choices on the *expected future benefits* of the alternatives. There are, however, serious information shortages that lead voters to look to the past as a means to calculate future expectations. It takes time and

effort to evaluate campaign promises and since those promises are, after all, only words, it is safer, faster and easier to use past performance to project the incumbent's actions for the next term. In Downs' framework, voters mainly focus on the incumbent's performance, but they also look at the past to make *comparisons* between the incumbent and the challenger - they compare the actual performance of the incumbent with a hypothesized performance of the challenger had it been in office during that period.

However, Downs does not provide a systematic account of how voters might construct their expectations of the future performance of the challenger. In Fiorina's (1981) framework, voters not only observe what the incumbent has done lately, but monitor, over time, what each of the alternatives has done while in office, together with their platforms, encapsulating such information in a term called "party identification". Party ID, hence, contains the voter's political experience with the parties during his lifetime, presumably weighting more heavily the more recent information. This summary measure involves both retrospective and prospective information, that is, information about actual performance and about campaign promises and the fulfillment of those promises over time. The summary retrospective measure of each of the parties serves to assess the future.

Achen (1989) further developed this framework, constructing a rigorously developed rational choice model of party ID in which citizens receive a party identification form their parents and then constantly update it, consistent with Bayesian principles, with their own political experiences, direct benefits they have received from the parties when in office, and current campaign data. Party ID so constructed serves to forecast the future course of benefits from the parties and it is, in this sense, inherently comparative.

When trying to apply this framework to dominant party systems (systems, that is, where only one party has governed for a generation or more), non-trivial

complications emerge for two reasons. First, in dominant party systems, challengers are much more uncertain entities to voters. Voters lack past political experience with challengers and consequently cannot "look to the past" as a safer way to construct future expectations about their likely future performance if elected. The only information available to voters to construct such expectations is current campaign data, which one knows should not be fully trusted. V.O. Key once argued that "voters are not likely to be attracted in great numbers by promises of the novel or unknown" (1966, p. 61). He made that argument looking at US elections. Only in dominant party systems, however, are challengers really as unknown as Key portrayed them and voting for them might indeed represent a "leap in the dark", a risk that not many might be willing to take. Second, in dominant party systems, the incumbent has been in office for too long; if the incumbent's performance has been consistently positive, this prior information will weigh heavily in the voters calculations creating some "stickiness" in favor of the incumbent. In other words, the more voters have seen only one party governing, the more they will believe only that particular party can govern and, moreover, if the incumbent's historic record is good enough, it might take more than one "negative" observation on its performance to change the voter's perception of the dominant party's overall record. Both problems can explain why voters in dominant party systems, such as the Mexican one, might be willing to rationally tolerate incumbents that do not deliver economic prosperity.

Hence, one can think about electoral choice in a continuum of party systems depending on the type of retrospective information available to voters: a) competitive party systems, where there has been alternation of power (i.e., at least two parties or their leading candidates have had experience in office) such that voters can easily use the past performance of both incumbents and challengers, updating such information with current campaign promises, to make estimates of the expected future performance of the competing parties; b) dominant party

systems where retrospective information is biased either because the incumbent has been in office for too long or because only one party has ever governed at the national level; and c) new party systems where no political party has had experience in government --for example, party systems that emerge just after the overthrow of a military dictatorship. In these systems, voters must calculate the expected future benefits of the different alternatives by observing current campaign promises. True, in many cases the parties that emerge are those which existed before the military seized power. Voters could presumably project their historic records to future expected performance. However, since most of the time the long years of dictatorship profoundly transform the cleavage structure, in the founding election voters are actually looking at "new" parties, although with old labels. Old labels could still be used by voters, but only as imperfect pieces of information. Most commonly voters turn to those who led the opposition to the dictatorship -which indeed is a credible bit of information.

Given the differences of the elector's choice problem in these different systems, one should expect that parties must anticipate those problems and behave accordingly. In competitive party systems, incumbents should anticipate that voters will hold them accountable for their behavior at future elections *and*, moreover, challengers must anticipate that voters will not allow them to offer any type of campaign promise, but only with a platform at least broadly consistent with their past performance while in office. In dominant party systems, the incumbent should anticipate that voters will indeed reward or punish their performance, but nevertheless have a higher tolerance for unsuccessful performance since the threat to replace lax incumbents is not so credible given the lack of sufficient information about challengers. Finally, in new party systems, new parties might, at least during the first electoral rounds, be tempted to promise

what they cannot really deliver given that voters possess no retrospective information to check for the credibility of their promises.⁵

The next section provides a model of electoral choice in dominant party systems. The model seeks to elucidate the impact of informational asymmetries on the voter's choice problem. Informational asymmetries, it is shown, make electoral markets imperfect and thus contribute to the durability of dominant party parties. Elections, nonetheless, represent a direct thermometer of government performance, imperfect as it may be. The model can thus provide explicit hypothesis regarding the electoral survival or defeat of dominant parties depending on their economic performance.

The Model⁶

In this model there are only two parties, the incumbent and a challenger. Only the incumbent has been in office. Voters want both to maximize future expected (mostly economic) benefits and to obtain their most preferred policy proposals. Voters are assumed to assign different weights to each of these goals. Hence, the voter's utility function can be expressed as:

⁵This could partly explain the disappointment in Eastern Europe with the incumbents who inaugurated democracy but have now lost power (except in the Czech and Slovak Republics).

⁶ The use of bayes framework for the study of voters is first developed in Achen (1989). Achen himself latter applied the framework for the study of the "timing of political liberalization" in Taiwan (Achen, 1995). Although strongly inspired by his second work, this model differs from his on various grounds. Achen does not model *electoral choice*, but regime support, which is based on the performance of the economy and in particular on the evolution of annual growth rates. He, however, does not get into a systematic analysis of election to election dynamics -the way voters process in their prior beliefs the observed performance of parties, how they update such priors with current economic performance and campaign announcements, and the way voters might construct their priors regarding an opposition party which has never been in office before- which is precisely what this model attempts to do. More recently, Alvarez (1997) also employs a Bayesian model to explain how voters learn about the candidates during the campaigns.

$$U_i = \mathbf{a}_i [E_i(P^I) - E_i(P^O)] - (\mathbf{b}_i) \left[\left(\sum_{j=1}^n (I_j - V_{ij})^2 \right)^{1/2} - \left(\sum_{j=1}^n (O_j - V_{ij})^2 \right)^{1/2} \right] + \mathbf{g}(Z_i)$$

(1)

where, dropping the subscript i , $E(P^I)$ is the expected economic performance from the incumbent if reelected and $E(P^O)$ is the expected economic performance from the opposition party. The term $-\left(\sum_{j=1}^n (I_j - V_{ij})^2\right)^{1/2} - \left(\sum_{j=1}^n (O_j - V_{ij})^2\right)^{1/2}$ refers to "policy" voting, meaning that electors seek to minimize the distance between their ideal policy points and those offered by the parties in the $j = 1, \dots, n$ issue space. Constants α and β are the weights assigned to "economic performance" and "policy" voting. Normally, it is said that voters weight more heavily the first part of the equation than the second, but it need not be so. Voting according to expected performance and voting according to issue positions differs significantly. The difference lies in how concerned the voter is with societal outcomes as opposed to specific means to achieve those outcomes. For example, everyone prefers economic growth and societal peace. The disagreement among voters and policy makers lies in how best to achieve those ends. (Abramson, *et. al*, 1994: 197). Finally, the last term refers to a set of sociodemographic characteristics unique to the voter.

Hence, abstracting from sociodemographic variables, one can construct a three by three table to represent the voter's choice problem under all the possible states of the world. The solutions to the voter's choice problem are as follows:⁷

⁷ There are two important differences between this formulation and that by Fiorina (1981) in his table 4.1 on page 68. In his three by three table, the relevant labels are not "expected future performance" and "observed policy proposals", but retrospective and prospective evaluations,

		Observed Policy Proposals		
Expected Economic Performance	$\sum_{j=1}^n (I_j - V_{ij})^2 < \sum_{j=1}^n (O_j - V_{ij})^2$	$\sum_{j=1}^n (I_j - V_{ij})^2 = \sum_{j=1}^n (O_j - V_{ij})^2$	$\sum_{j=1}^n (I_j - V_{ij})^2 > \sum_{j=1}^n (O_j - V_{ij})^2$	
$E(P^I) > E(P^O)$	Incumbent	Incumbent	Depends on α , β and relative values	
$E(P^I) = E(P^O)$	Incumbent	Flip of a coin	Opposition	
$E(P^I) < E(P^O)$	Depends on α , β and relative values	Opposition	Opposition	

The voter's choice is straightforward when the same party is expected to produce the best economic performance and to offer the most preferred set of policy proposals. When performance expectations and policy evaluations do not coincide, the voter's choice depends on α , β and on the relative values of "expected performance" and "policy proposals". In this paper I will focus on the first part of the voter's utility function, leaving policy voting for further research. Without considering policy voting, the equation tells us that the voter will choose to cast a vote for the incumbent if its expected future economic performance exceeds what she believes the opposition could produce. Hence, a central question is how do voters construct their expectations about the future economic performance of parties.

Expected party performance $E(P^j)$ is composed of a set of macroeconomic indicators - growth rates, inflation, wages, currency stability, interest rates - the j

respectively. Thus, in Fiorina's framework α and β refer to the relative weights of the past and the future. In the model here developed, "expected future performance" includes *both* retrospective and prospective calculations; the weight of the past and the future are derived from a Bayesian rule (see below).

party will deliver if elected. Due to the uncertain information voter I has about how the party j might perform, $E(P^j)$ is represented by as a random variable, with a corresponding central tendency and a variance of perception. The distribution is assumed to be normal. Following Chris Achen, I propose that citizens estimate the future expected economic performance of the j party, $E(P^j)$, according to Bayesian principles. The voter uses the available past and recent information to calculate the expected value of P^j . First, he holds *prior* beliefs, P^j_{i0} , on the expected economic performance of the j party; prior beliefs stem from the voter's past political experiences and are represented as a normal distribution of the observed macroeconomic indicators delivered by party j when in office. Second, the voter also observes *recent* data -namely, the performance of the economy of the full term since last elections and what the j party promises to deliver if elected. Hence, the voter must make an inference of P^j given the new information. The voter is supposed to chose the party that maximizes his expected payoff over the posterior distribution of P^j , which combines his prior knowledge, P^j_{i0} , with the information observed before the elections.

In this model, the available prior and current information on the parties expected performance differ considerably. The incumbent, I , is a dominant party which has permanently been in office, while the challenger is an opposition party, O , which has never governed (at least at the national level). Thus, expectations about the incumbent's future economic performance can be safely deduced from past performance: if the incumbent has been in office for a long time, voters have no reason to believe that the economic future under such a party will be significantly different from what they have observed. Nevertheless, since the opposition has never been in office, there is almost no prior information available for voters to assess that party.

The current information on the incumbent and the opposition also differs. Since the incumbent is currently in office, voters can observe *both* current economic performance -the growth rates of the election year - and the economic performance the incumbent announces to deliver if reelected. Voters, of course, need not believe all what the incumbent announces. Since voters learn from the past to construct their expectations about the future, they can use the party's overall record to assess the credibility of the incumbent's promises. In particular, if voters observe that, through time, the incumbent has tended to deliver what it has promised, they will possess good reasons to believe it, whereas if they have observed a consistent significant deviation between campaign announcements and actual performance, the opposite is true. For the opposition, on the other hand, all the information voters are left with is campaign promises on economic performance. Voters, however, might have reasons to take the opposition party's promises as rhetoric, since the credibility of those promises cannot be easily assessed given that the party has never been in office.

The prior and current density functions must therefore be differently derived for the incumbent and the opposition. The incumbent's prior, $P^I_{i_0}$, is constructed from a distribution of the observed economic performance experienced by the individual during his political lifetime while the party has been in power. This distribution of growth rates is assumed to be normal $N(\bar{P}^I_{i_0}, \mathbf{s}_{i_0}^2)$. $\bar{P}^I_{i_0}$ is specifically the mean economic indicators he has observed since he started to be aware of politics at time w so that:

$$\bar{P}^I_{i_0} = \frac{\sum_{k=w}^{t-1} P_k}{t-w-1} \quad (2)$$

Naturally, $\bar{P}^I_{i_0}, \mathbf{s}^2_{i_0}$ varies across voters according to the information they have observed during their lifetimes.

Two new pieces of information are then observed: current economic performance, P_t and the incumbent's campaign announcements, A^I_{t+1} , both random variables resulting from normal distributions $N(\mathbf{m}, \mathbf{s}^2)$. Specifically, P_t is the observed economic performance before the election and P^I_{t+1} is the performance promised by the incumbent party during the campaign. Campaign announcements are, however, not taken at face value. Voters can assess the credibility of the incumbent's promises by looking at its record. In particular, they are presumed to remember what the incumbent announced to deliver in the previous campaign, A^I_t , and observe how much actual performance, P_t , deviated from such a promise. If the incumbent is seen to have lied, voters discount the credibility of A^I_{t+1} by a factor δ (where $0 < \delta < 1$) so that

$$\mathbf{d} = \begin{cases} 1 & \text{if } A^I_t \leq P_t \\ \frac{1}{1 + A^I_t - P_t} & \text{otherwise} \end{cases} \quad (3)$$

Hence, voters observe what the incumbent announces to deliver, A^I_{t+1} , qualifying such promise by δ in the manner specified by (2). This creates a modified piece of new information, $P^I_{p_{t+1}}$, (where $P^I_{p_{t+1}} = f(\delta, A^I_{t+1})$) that voters will use to update their prior beliefs. Equation (2) tells that voters believe a 100% of what the incumbent promises to deliver if reelected if the actual growth rate of the current period is either equal or larger than what was promised; in that case, $\delta = 1$ such that $P^I_{p_{t+1}} = A^I_{t+1}$. Otherwise, voters start to punish by

discounting the incumbent's announced growth rate by a factor proportional to the size of the deviation. The more the incumbent is seen to have deviated from its words, the more voters will discount its current campaign announcements.

The final step is to derive the incumbent's posterior density function that represents its expected economic performance. This requires a sequential use of Bayes theorem, where a prior density function $f(P^I)$ is first updated to a posterior density using data P_t (the observed economic performance before the election) and the resulting posterior density is then updated using $P^I p_{t+1}$ (the incumbent's campaign announcements qualified by δ). It can be shown that this two-stage process is equivalent to updating directly $f(P^I)$ by a single application of Bayes' theorem. (see O'Hagan, 1994: 67). Thus, the corresponding version of Bayes theorem can be written as:

$$f(P_i^I | P_t, P_{pt+1}^I) = \frac{f(P^I) f(P_t | P^I) f(P_{pt+1}^I | P^I, P_t)}{\int f(P^I) f(P_t | P^I) f(P_{pt+1}^I | P^I, P_t) dP^I} \quad (4)$$

where $f(P_i^I | P_t, P_{pt+1}^I)$ represents the incumbent's expected economic performance according to voter i reached by observing two new pieces of information, P_t and $P^I p_{t+1}$.

In a sense, $f(P_i^I | P_t, P_{pt+1}^I)$ summarizes all what is known about P^I by voter i . Bayes theorem describes, in a fundamental way, the process of learning from experience -that is, how individuals change their previous expectations when new information becomes available. Applied to the voter's choice problem, Bayes theorem can elucidate the way voters might calculate the expected performance of parties by combining the past and current performance records of the parties. One

of the most appealing qualities of Bayes theorem is that it can tell us the relative weights of prior and current information on the voter's calculations. Conventional approaches usually assume that voters only focus on the most recent pieces of retrospective information, applying a myopic decision rule captured in the phrase "what have you done for me lately?" (V.O. Key, 1966). Here, as in Fiorina's approach, voters use all the available retrospective information (the party's overall record while in government and economic performance before the election) plus campaign promises to calculate expected party performance. However, Bayes principles allow us to endogenously derive the weights of each of these pieces of information instead of assigning them arbitrarily. Solving equation (4) with the normal distributions specified above, the expected growth rate of the posterior distribution is given by:

$$\bar{P}_i = \frac{1}{w_0 + w_1 + w_2} (w_0 \bar{P}_{i0} + w_1 P_t + w_2 P_{pt+1}^I), \quad \frac{1}{s^2} = w_0 + w_1 + w_2$$

$$\text{with } w_0 = \frac{1}{s_o^2}, \quad w_1 = w_2 = \frac{1}{s^2} \quad (5)$$

This results from the sequential use of a well-known result of Bayesian analysis when normal distributions are combined (for proof, see Appendix A1.1 in Box and Tiao, 1992: 74). The posterior distribution is also normal, $N(\bar{P}_i, \bar{s}^2)$. It can be seen that the expected economic performance of the incumbent, \bar{P}_i , is a weighted average of the mean economic performance voter i has observed during his lifetime, \bar{P}_{i0} , and the new two pieces of information (current economic performance, P_t) and the incumbent's credible campaign promises, P_{pt+1}^I (what

the incumbent announces to deliver discounted by the factor δ). Needless to say, dominant parties that have consistently produced high growth rates and that run for reelection in times of economic prosperity are very hard to beat. This follows from the nature of Bayesian learning: the more a voter has observed a party producing high growth rates, the more he will expect that in the future such party can be successful.

But what happens when an economic crisis or downturn takes place? Will the dominant party lose or survive? It can be seen that the weights of prior and current information are proportional to the reciprocal of the standard deviations of the data, represented by w_0 , w_1 and w_2 .⁸ This is an appealing result since it can tell us how much information voters can really extract from each observation, that is, whether they can really learn from the observed past party performance or whether they will be forced to be myopic, focusing on the most recent piece of information (i.e., the economic downturn) to infer what the party might do if reelected. If the elector has seen a *consistently satisfactory economic performance* during most of his life, and during the year before the election he observes, nevertheless, an economic downturn, the prior belief will weight heavily on the voter's forecasts. Hence, the following proposition can be derived: a dominant party, if successful in delivering growth during several years, can profit from its past performance and still enjoy considerable levels of support despite a recent economic crisis. Voters, that is, might interpret the downturn as a streak of "bad luck" and still expect that in the near future performance will be closer to the average annual growth rates previously observed.

⁸ In this model, w_0 , w_1 and w_2 are assumed to be known. w_0 varies from elector to elector, since it represents the reciprocal of the standard deviation of the distribution of growth rates personally experienced by the voter during her lifetime. w_1 and w_2 , on the contrary, are constant across the electorate. For the sake of simplicity, $w_2 = w_1$, both representing the reciprocal of the standard deviation of growth rates believed to be achievable in the country.

If, on the contrary, the incumbent has delivered an erratic economic performance during the voter's life span, the most recent information (the party's performance before the election and the campaign events) will weight more on the voter's forecasts. In this case, historic performance seems to be too "noisy" to make safe forecasts, leading the voter to concentrate more on the most recent pieces of information. Interestingly, as it will be discussed below, the incumbent would face more incentives to manipulate the economy before the elections precisely in situations of erratic growth. The following proposition then emerges: if the dominant party has produced erratic growth rates during several years, an economic downturn just before the elections might actually mean losing power.

To illustrate these propositions, suppose countries X and Y have each been governed by dominant parties for more than 30 years. To simulate the model I assume that prior beliefs are a function of the mean growth rates observed by the voter since he started to be aware of politics. Of course voters care about a wider set of economic indicators. All voters, that is, desire a healthy macroeconomic system, not only one which grows, and such system is composed of a set of indicators – growth rates, inflation, the value of the currency, employment and the like. However, since voters might attach different weights to each of these indicators, to simplify the problem, the simulations concentrate only on growth rates.

In both countries the average growth rates have been 6%, but in country X growth rates have been very consistent over time, while in country Y they have been erratic, going from boom to bust to boom again for several years. Now suppose that there is an economic downturn during the election year, with growth rates dropping to 1% in both countries. The model tells us that the average citizen in country X will still expect the dominant party to deliver, if reelected, a growth

rate largely consistent with its past performance record, while the average citizen in country Y will expect a mediocre growth rate. Figures 1.1. and 1.2. illustrate these issues by showing the posterior density functions for the hypothesized average citizens in both countries. The average citizen's prior density function in country X is given by the normal distribution, $N(6\%, 0.5^2)$, and that of country's Y is $N(6\%, 2.5^2)$; for citizens in both countries, the new observation is given by $N(1\%, 1.5^2)$.

[Figures 1.1. and 1.2. about here]

We see that after an identical observation -the current economic downturn- the average citizen's beliefs about the expected performance of the parties differ considerably. In a sense, citizens in country X did not pay much attention to the recent economic downturn to form their expectations: their posterior opinion on the expected party performance dropped by less than 1%. Citizens in country Y, on the contrary, were much more myopic. This is because the party's performance record is a too noisy, forcing voter to focus on the most current information to make their inferences. It can be seen that although in both countries citizens *a priori* believe that the dominant party will deliver a reasonably high annual growth rate of 6%, the current downturn dramatically reduces posterior beliefs in country Y, yet not in country X. Naturally, the economic crisis can hurt that party' reelection chances much more.

I now turn to the opposition party. In this model, voters also form expectations about the performance of the opposition party according to Bayesian principles. They start with a prior belief about the party's expected performance and update such belief with campaign announcements. The corresponding version of Bayes theorem is thus given by:

$$f(P_i^o | P_{t+1}^o) = \frac{f(P^o) f(P_{t+1}^o | P^o)}{\int f(P^o) f(P_{t+1}^o | P^o) dP^o} \quad (6)$$

where $f(P_i^o | P_{t+1}^o)$ represents the posterior density of the expected economic performance of the opposition party according to voter i , $f(P^o)$ represents his or her prior belief about P^o , and $f(P_{t+1}^o | P^o)$ is the density function of the new information, namely the opposition party campaign promises.

Two complications emerge. First, the voters' prior beliefs about the opposition party's expected performance are formed in a state of (almost) complete ignorance, since such a party has never been in office. The opposition party, that is, might be equally likely to produce, a priori, *any* average growth rate. The argument is not that prior information is completely absent, since voters might still hold *some* beliefs about the opposition party's expected performance. These prior beliefs are, however, weak and generally non-informative. The voter's priors can thus be represented as a diffuse distribution of growth rates of the form $1/\sigma$.⁹

The second complication is that voters must update their non-informative priors with current campaign announcement, which could very well be interpreted as pure rhetoric, since the credibility of those promises cannot be easily assessed given that the party has never been in office. To represent this uncertainty, I assume that the variance of the density function, $f(P_{t+1}^o | P^o)$, is unknown. The intuition is the following: the opposition party must campaign promising to

⁹ For a rationale to use this specific form of a diffuse prior instead of a simple constant, see Box and Tiao (1992: 50). This specification has the property of only relocating the likelihood function along the mean.

deliver an economic performance that might or might not be achievable under a *new* state of nature, a world without the dominant party, and little is known about such world. Had alternation of power periodically occurred throughout history, voters would see no reason not to attribute the same variance to $f(P_{t+1}^O | P^O)$ as that assigned to $f(P_{t+1}^I | P^I)$.

The opposition party's posterior distribution hence results from the combination of a diffuse prior, $1/\sigma$, with a normal distribution, P_{t+1}^O , where both μ and \mathbf{s}^2 are unknown. The corresponding posterior density function yields the expected value¹⁰:

$$\overline{P_i^O} = \frac{1}{\mathbf{S}} P_{t+1}^O \quad (7)$$

Equation (7) defines the expected economic performance of the opposition. Holding diffuse prior beliefs about the opposition party's expected performance, the voter is only left with current campaign promises to make his inferences. Equation (8) tells how hard it is for a party that has permanently been out of office to convince voters solely on the grounds of promised economic performance. The equation shows that the opposition party's campaign promises are discounted *regardless* of whether the party is being sincere or not. That is, even when the opposition party proposes a growth rate, which is realistic and feasible, voters discount such a promise by $1/\sigma$. This contrasts with the way voters evaluate the

¹⁰ See Box and Tiao (1992: 51), equation 1.3.80 and also table 1.3.1 for a summary of non-informative priors and corresponding posterior distributions. It should be noted that the shown result in equation 6 is only for the specific case when there is only one piece of information so that $n=1$.

incumbent's campaign announcements. As was discussed above, voters do not discount the incumbent's promises unless such party is perceived as truly unreliable -that is, voters discount its campaign announcements *only if* they observe that what the party announced to deliver for the current period, A_t^I , is smaller than the actual growth rate delivered, P_t , and otherwise take announcements at face value. This follows from the fact that voters learn, through time and by monitoring actual performance, how much to believe the words the dominant party announces. Yet, with respect to the opposition party, voters lack sufficient retrospective information to check for the credibility of its campaign promises, leading them, as described in equation (7), to a priori regard them almost as "mere words".¹¹

In a sense, σ can be interpreted as the amount of "noise" surrounding the *a priori* expectation of an unknown opposition party. The voter uncertainty with respect to opposition parties is not fixed, however. An opposition party that has held office at the local level might be regarded as less uncertain than one that has not had previous local experience. In addition, an opposition party which tends to be consistent over time in its policy positions might also be less uncertain than one which varies its platform depending on the minor issues of the moment. Moreover, an opposition party that holds policy positions that imply more radical changes from the status quo might also be regarded as more uncertain. Finally, uncertainty about the expected performance of a party while in office might also be correlated with media exposure. Presumably, the more an opposition party receives media coverage, the less uncertain such party might become. Thus, I suggest that a priori

¹¹ An alternative explanation as to why voters are compelled to discount the words of the opposition party would be that although opposition parties often tend to converge with the incumbent in their campaign promises so as not to alienate interest groups, these groups know that if the opposition were to win the elections, it would naturally change the *status quo* -where the interests of the dominant party have long been deeply rooted.

uncertainty is a function of past local experience in government (L); consistency of platforms over time (C); magnitude of changes proposed from the status quo - measured in terms of the expected difference, according to voter i between the status quo (Sq) and the policy positions the j party advocates in the k issue space, X_{jk} ; and media coverage (M), such that

$$s_{ji} \approx f[L_j, C_j, E_i(Sq - X_{jk}), M_j] \quad (8)$$

In dominant party regimes the available retrospective information is asymmetric, which places the opposition at a considerable disadvantage.¹² The model shows that it will be hard for the opposition party to convince voters by promising a better economic performance than the incumbent. Thus, if the opposition wants to win elections, it needs to reduce the voter's uncertainty. Its available strategies for doing so largely depend on the institutional setting and the political context. Opposition parties can attempt to reduce the voter's uncertainty by winning increasingly more elections at the local level.¹³ Although *local* performance cannot be directly projected to future *national* performance, voters might still use local records as imperfect "proxies" to construct their priors on the opposition

¹² Since the model shows that it will be hard for the opposition party to convince voters by promising higher growth rates than the incumbent, it appears that such party should rather emphasize policy proposals, seeking to attract the support of "policy voters" and hoping that in the meantime the incumbent runs into economic trouble. However, if a higher proportion of voters weights more heavily the first part of their utility function described in equation (1), the opposition will not be able to win until voters believe the incumbent's expected performance is considerably below what the opposition promises.

¹³ The cost of entering local electoral markets is naturally lower. On the one hand, opposition parties can focus their often scarce organizational resources on smaller geographical regions, and on the other, from the voter's point of view, the risks involved in experimenting with a new political alternative appear to be lower in smaller electoral offices.

expected performance (Magaloni, 1994). An opposition party that increasingly controls more and more electoral offices at the local level can indeed be regarded as less uncertain than one that does not. It is common to find some opposition parties following a "local" strategy when competing against a dominant party (in India, Mexico or Taiwan for example) Riker (1976). Presumably, in following such strategy, opposition parties are calculating that by becoming a *party in government* at the local level, they contribute to reducing the voter's uncertainty - to reduce, that is, the value of σ which in the long-run might help them win the national price as well.

Opposition parties might also attempt to reduce the voters' uncertainty by holding a consistent platform over time and, additionally, by proposing milder changes from the status quo and certain similarity of policies. For instances, they can promise to keep the finance minister in place, particularly if he or she is competent. Media converge might also play an important role in reducing the voter's uncertainty. However, in single party regimes, quite often the government tightly controls the mass media.

Implications of the model.

Having described how voters construct their expectations, I now proceed to the discussion of the implications of the model. As in most decision theoretic problems, the voter's decision rule is straightforward: pick whichever party is expected to produce the best economic performance. Naturally, the solution of the problem depends on the specific values of the proposed variables. These values can be derived from different historical settings or can be posited according to hypothetical simulations that employ realistic figures.

In the following simulations I assume, first, that expectations about the future economic performance are mainly a function of observed and proposed

growth rates. As said above, this assumption simplifies the simulations, since voters might attach different weights to the various economic indicators. Second, I assume that A^I_{t+1} equals $P^O_{P_{t+1}}$ so that the opposition party promises to deliver the same growth rate announced by the incumbent. A different specification of the model would be that the opposition party can promise any growth rate it desires, with the only caveat that if it were to win the election, voters would be able to punish it at the next electoral round by a factor proportional to the size of the "lie" (the difference between its current campaign promise and its real performance when in office in the manner specified by 3). Naturally, in such specification of the model, the opposition party would possess more incentives to lie, the lower its chances of winning and the more it discounted the future.¹⁴

This second assumption does have some empirical justification. In dominant party systems, opposition parties often tend to distinguish themselves from the incumbent by emphasizing negative retrospective evaluations, but they seek to converge with its economic prospective announcements. Opposition parties that seriously seek to win elections commonly use this type of strategy and it might arise for two quite different reasons. The first related to interest groups. Since interests groups (e.g., unionized workers, entrepreneurs, bankers, farmers, etc.), in fact since the economic system itself is closely tied to the dominant party, serious contenders are better-off not offering radical prospective changes, but only marginal ones that do not represent a real threat to the *status quo*. The second reason might be related to framing: a political party that has permanently been out of office might indeed be more convincing adjudicating responsibility to the

¹⁴ Under such specification, voters might be modeled so as to distinguish between different "types" of opposition parties by their announced growth rates: "serious" contenders which offer realistic and achievable targets and "unviable" (cheap-talk) ones which announce too high a growth rate to be achievable.

incumbent for what ever seems to go wrong, than offering a *credible* higher growth rate than that offered by a party which, after all, the best thing that offers to voters is its long experience in government.

1. Dominant Party Systems are Characterized by Limited Electoral Accountability

Figure 1.3. simulates the model with a set of election year growth rates for an incumbent that holds a good performance record -the prior density function is given by the normal distribution, $N(6, 1.87^2)$. This prior density function roughly approximates to that of the Mexican PRI from 1940 to 1965, the years of the so-called "economic miracle" of steady high growth rates. The figure also considers two types of challengers, A and B, each competing on different party systems, a dominant party system and a competitive party system, respectively. Thus, challenger A has never been in office, while challenger B has. Challenger A's expected performance is derived from equation (7), which uses a diffuse prior and updates it with current campaign announcements. The same intensity of "noise" is attributed to the density function of the growth rates believed to be achievable in the country, $1/W_2$, as to the unknown opposition party's density functions¹⁵.

Since challenger B has previously been in office, its expected performance can be calculated applying almost the same equation as that used for the incumbent. That is, for Challenger B, the prior information is given by the average growth rate produced when in office which is updated with one new piece

¹⁵ Thus, unless otherwise stated, for the purpose of calibrating the model, σ^2 for the challenger is assumed to be equivalent to $1/W_2$.

of information, current campaign promises.¹⁶ In this simulation, Challenger's B prior is assumed to be slightly lower than that of the incumbent is (average of 5% with same variance). Campaign announcements are 3% and voters believe the incumbent's promises partially ($\delta = .66$).

[Figure 1.3. about here]

It can be seen that the better the incumbent's current economic performance, the larger its chances of winning and, conversely, the stronger the economic recession, the more likely the incumbent will lose. Figure 1.3. shows that this is true *both* for the competitive and the dominant party systems. It is precisely the threat of losing the next election that is supposed to make governments accountable, for such a threat provides incentives for elected politicians to act in the interest of the population. However, clearly, the threshold needed for the incumbent to lose the election is smaller when it faces a challenger that holds previous experience in government. The threat to replace a lax incumbent is clearly less credible in the dominant party system and incumbent politicians can take advantage of this.

Imperfect electoral accountability does not stem from the voter's inability or unwillingness to monitor the incumbent. Voters base their choices on the actual performance of parties and in doing so monitor their records over time. The extent to which electoral accountability is limited depends on the informational asymmetries between challenger and incumbent. The only difference between

¹⁶ In this particular case, Challenger B's prior density function is given by $N(5\%, 1.87^2)$. As it was previously argued, when alternation of power periodically occurs throughout history, voters can attribute the same variance to $f(G_{P_{t+1}}^O | G^O)$ as that assigned to $f(G_{P_{t+1}}^I | G^I)$. Thus, in this case: $N(3\%, 1.58^2)$ for challenger B and incumbent.

Challenger A and challenger B is that the former has never been in office, while the latter is supposed to have a good record in government (average 5%). In this particular experiment, challenger B would still be strictly better than A even if its *a priori* expectation fell to 2% -that is, even if B were a rather incompetent political party relative to the incumbent, it would still be better than the unknown challenger A. The difference between the points at which challenger A's and B's expected performance intersect with that of the incumbent might be called the "tolerance threshold" of dominant party systems -the amount of government laxity they are forced to tolerate before voting the incumbent party out. Naturally, the larger the "noise" or uncertainty (σ) surrounding the challenger, the larger the "tolerance threshold".

It should be emphasized that informational asymmetries make electoral accountability problematic, though not inexistent. Figure 1.3. clearly shows that voters in dominant party systems do monitor government performance, and that they are potentially willing to replace the incumbent -though it could be a long wait. The better the record of the incumbent, the longer the wait.

2. Regular Elections represent an imperfect thermometer of economic performance.

In dominant party systems regular elections represent a direct, although imperfect, thermometer of government performance. To make this point more explicit, figure 1.4. provides the relevant information, using the same values as those used in figure 1.3., but for an incumbent with a bad performance record -the prior density function is given by the normal distribution, $(2, 1.87^2)$. This prior roughly corresponds to the PRI's record from 1976 to 1988 -although the real variance in growth rates during those years was larger than that assumed in the exercise. It

can be seen that a dominant party with such performance record will not be reelected unless it delivers a *positive* growth rate during the election year. Of course, if such incumbent were facing challenger B (as in a competitive party system), it would need to deliver a much higher growth rate (4%) to be reelected.

[Figure 1.4. about here]

3. Dominant Parties with Mediocre Economic Records are more vulnerable to short-term Economic Fluctuations.

A conclusion is that dominant parties with mediocre records are more vulnerable to short-term election year economic fluctuation -and more even so the larger the standard deviation of their prior density functions. Both points are illustrated in figure 1.5., where the expected performance of a "competent incumbent" and an "incompetent incumbent" -the first having produced an annual average growth rate of 6% and the second of 1%- are calculated assuming a -2% growth rate in the current election year and different values for the standard deviation of their prior density functions. The same values as before are used for the rest of the variables. It can be seen that for the particular values of the experiment, the "incompetent" incumbent would possess no chance of being reelected if an economic recession took place during the election year; this holds regardless of the value of the standard deviation of its prior density function - although the larger this is, the smaller the party's expected performance. The "competent" incumbent, on the other hand, produces mixed results: if the standard deviation of its prior density function is below certain threshold, it can be reelected; but if its prior record is too "noisy", the economic crisis can cost it the election.

[Figure 1.5. about here]

What this means is that it pays not only to be competent, but also consistent over time; if a dominant party is both, it would be very hard to beat indeed. This type of dominant party roughly parallels today's Taiwan's Kuomintang or the Mexican PRI of the economic miracle (approximately from 1940 to 1970). From the voter's point of view, it is rational to reelect an incumbent that delivers economic prosperity; indeed, this type of parties can remain in power with high levels of electoral support.

On the contrary, inconsistent and incompetent dominant parties are electorally vulnerable. A corollary is that such type of parties will possess strong incentives to manipulate the economy just before the elections. It pays more, that is, for an inconsistent and mediocre party to create an appearance of prosperity just before the elections; otherwise the cost might be losing power. This creates the following picture: economic instability is what makes a dominant party vulnerable in the first place. But once the party has become vulnerable, the trap is that it will be tempted to tinker with the economy just before the elections, producing yet again more economic instability -which is what made the party vulnerable in the first place.¹⁷ Whether politicians can (or to what degree) influence growth rates is a different issue. The current models of electoral business cycles argue that politicians, from time to time, will *try* to manipulate the policy instruments under their actual control. Naturally, in competitive party systems, where checks and balances are more likely to operate, incumbent's hands are more likely to be tied. But long-lasting incumbents possess more leverage, because they often exercise a *unilateral* control of patronage, the government's bureaucracies, the central bank, the legislature and the like.

¹⁷Competent and consistent dominant parties, on the contrary, possess no such incentive -after all, economic stability and prosperity is what keeps them solidly in power.

4. Voters' disposition to reelect the incumbent or turn to an uncertain opposition alternative is a function of their long-term experiences under the rule of the dominant party. For such reason, a generation gap is likely to exist in dominant party systems.

Until now the simulations have been used to compare among different types of dominant parties. But the model also provides important clues regarding what "types" of voters are more likely to start dealigning from the dominant party first - e.g., who is more likely to start punishing the incumbent, for instance, due to an economic crisis. Citizens differ in their prior economic information on the incumbents' performance because they possess different "length" past political experiences, meaning that each has observed different averages and variances of growth rates depending on their age. In particular, older voters might have observed different periods of party performance -realignment eras, economic booms, recessions or even wars- not directly experienced by the young. Consequently, if the party's historic record is good, older voters might be less likely to dealign from the party in times of economic crisis.

To illustrate this proposition, I simulate the model for different cohorts of voters classified according to the year they were born in. The simulation assumes a country with the following history: several years of stable low growth rates, followed by an economic boom that lasts for more than a decade and then a sharp economic decline. This hypothetical growth trend is shown in figure 1.6..

[Figure 1.6. about here]

For each cohort of voters, a prior density function is defined as in equation (2) with different mean and standard deviations. I assume that voters started to be

aware of politics when they were 18. Citizens are assumed to be calculating the expected performance of the dominant party and the opposition for the year of 1997. Both parties announce a growth rate of 6%.¹⁸ Figure 1.7. present the results. It can be seen that, according to the model, younger voters are more likely to dealign from the dominant party and vote for the opposition. The turning point seems to be around 1964 (that is, voters who are less than 35 years old). These voters were not aware of the good old years of the dominant party - especially of the booming period of the 1970s. When the first group of these young voters started to be aware of politics (in the early 1980s), the economy was growing at a very high growth rate, but that only lasted for a couple of years. The hypothetical country then experienced a sharp economic recession. Thus, younger have only seen recession in this country, followed by a couple of years of sluggish growth. Their posterior assessments on the incumbent performance are hence small. For these voters, the current year of sluggish growth is not enough to change their prior expectations; they will hence be more likely to vote for the opposition, even if such alternative is unknown.

[Figure 1.7. about here]

The older cohort still remembers the "old good years" of the party and thus possesses much higher assessments. In particular, voters who were born in the 1950s became aware of politics precisely during the years of the economic boom and thus possess the highest posterior assessments on the incumbent -during most of their lives they have seen growth rates as high as 10%. Voters born before the 1950s also possess a good prior assessment on the incumbent, though not so high

¹⁸I, again, assume that σ^2 for the challenger is equivalent to $1/W_2$. In this experiment, the same values as before for δ and $1/W_2$ are used.

as those born in the 1950s do. During most of their lifetimes, they have seen an incumbent party that delivers -first producing positive and stable growth rates and then an economic boom that lasted for almost a decade. Hence, to voters born before 1960, the five years of negative growth rates are not enough to dramatically transform their prior expectations. Keeping relatively higher prior expectations, the older generation may interpret the current years of sluggish growth as a sign of economic recovery -not of continued economic distress, as the younger ones do.

5. Unreliable incumbent dominant parties will be severely punished.

Parties campaign announcements deserve one last comment. In the model, the dominant party and the opposition offer identical platforms. That is, it is assumed that both parties promise the same growth rate with only one caveat: δ is only applied to the incumbent's announcements. This derives from the fact that only the incumbent possesses a record in government from which voters can actually "grade" its reliability -how much its words resemble its actions. This is the only *ex-ante* asymmetry that can sometimes work in favor of the opposition party. Suppose the incumbent runs into trouble due to an economic recession and that it tries to win the election by promising an extravagant growth rate. Since the model states that the opposition will replicate the dominant party's announcement, an extravagant announced growth rate might actually hurt the incumbent -and more even so the larger it has been seen to lie in the past.

To illustrate these points, figure 1.8. simulates the model assuming two "types" of incumbents, one "unreliable" and the other "reliable". The unreliable incumbent has been seen to deviate from its promises -the actual growth rate at time t is seen to be much smaller than the announced growth rate for that period such that $\delta = 0.1$. The reliable incumbent, on the contrary, closely delivered what

it promised such that $\delta = .9$. Both incumbents possess the same record – an a prior density function of $(6, 1.87^2)$ and suffer an economic recession of -1% during the election year. It can be seen that for both types of incumbents, it is better to promise realistic figures, for otherwise the opposition can take advantage of the announcement. Clearly, however, the unreliable incumbent possesses less leeway than the reliable one, for voters have learned from what they have seen to discount its words.

[Figure 1.8. about here]

Conclusions

The model developed in this paper has thus shown that if voters monitor government performance and act accordingly, parties possess incentives to be competent, consistent and reliable over time -which is precisely what Downs (1957) argued long time ago. If the electoral market is fully competitive, these incentives are naturally stronger, for the threat to lose the next elections if performance is found wanting is more credible. In dominant party system, the model has shown, such threat exists as well and for such reason frequent elections also provide disciplinary incentives for long-lasting incumbents. There is, however, a higher "tolerance threshold" to poor economic performance given by the asymmetry of retrospective information.

Thus, I provided a mechanism that explains illustrates why dominant party systems possess imperfect electoral markets. Even where votes are counted fairly and no institutional barriers to entry exist, their electoral markets are naturally

skewed in favor of the long-lasting incumbent. Although central for explaining the impressive resiliency of dominant parties, most of the literature fails to identify this point.

Formal models of electoral accountability do not explain the resiliency of dominant parties. These models assume that voters act retrospectively, rewarding and punishing government performance. A simple retrospective rule is sufficient, according to these models, to produce the desirable effect: the popular control of politicians by the electorate. Since in formal model challengers play no role - safe for their availability - they can't explain why some electoral markets are imperfect even in the absence of significant institutional restrictions to entry. The model here developed explains that limited electoral accountability results from imperfect electoral markets - imperfect in the sense that information is highly asymmetric. Unknown challengers might be available but not *preferred* by voters precisely because they are unknown.

Voters in the model use a similar decision rule to the one posited by most formal models: they base their choices mainly on the basis of the behavior of office holders. But voters are not blind: they look to the past to construct their forecasts and in so doing they must choose among competing alternatives. A blind retrospective rule might tell them to punish, but since they are choosing among competing alternatives, voters might nonetheless choose to reelect the incumbent even if its performance is found wanting. This argument is not noble (Downs, 1957; Fiorina, 1981), but its full implications, particularly for dominant party systems, have been so far ignored.

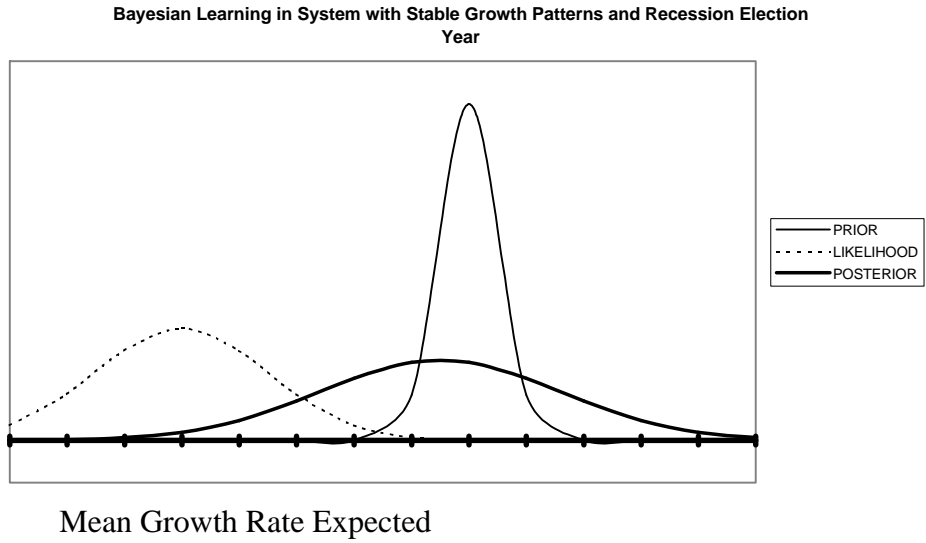


Figure 1.1.

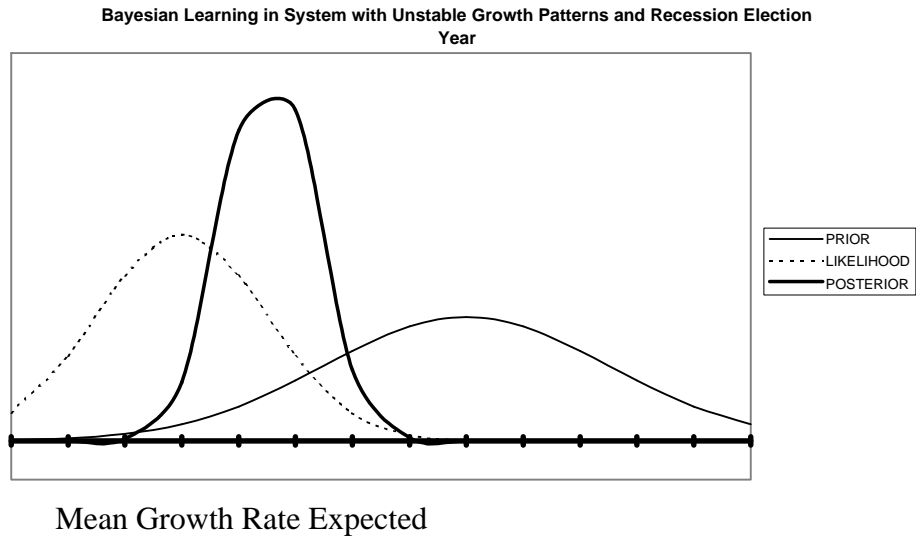


Figure 1.2

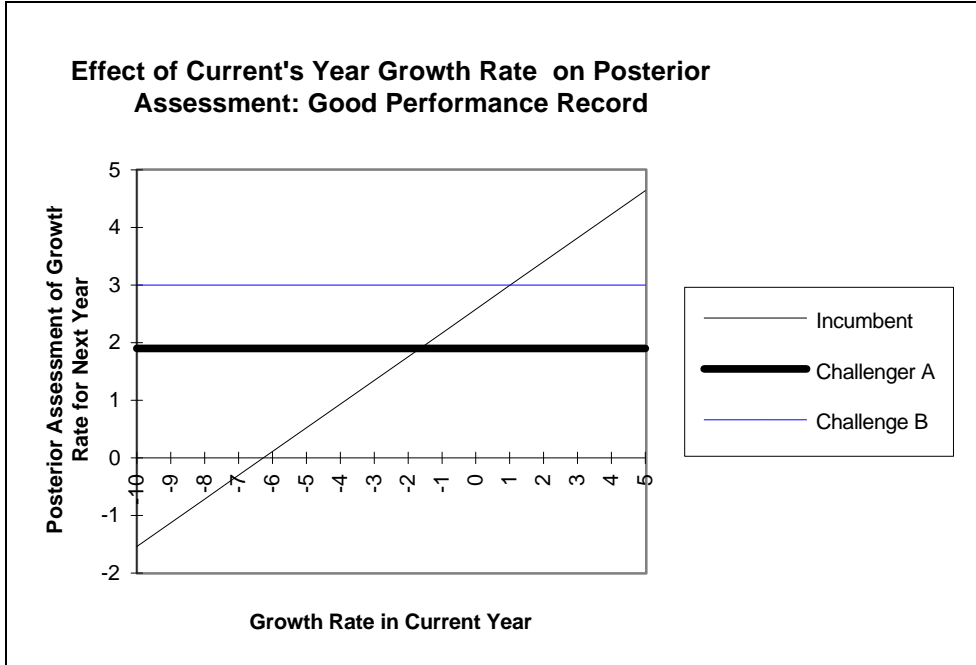


Figure 1.3.

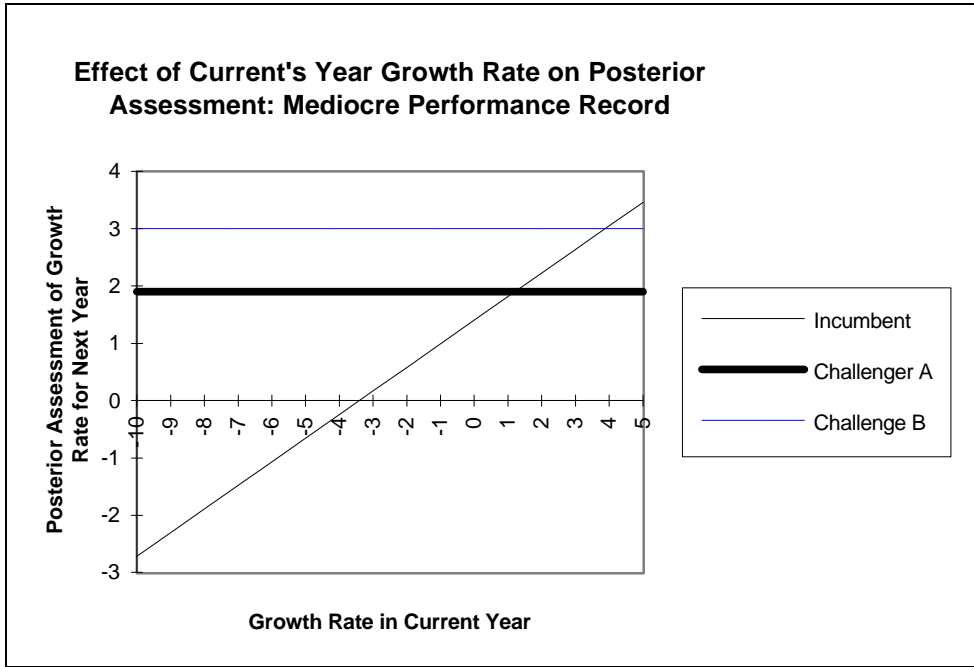


Figure 1.4.

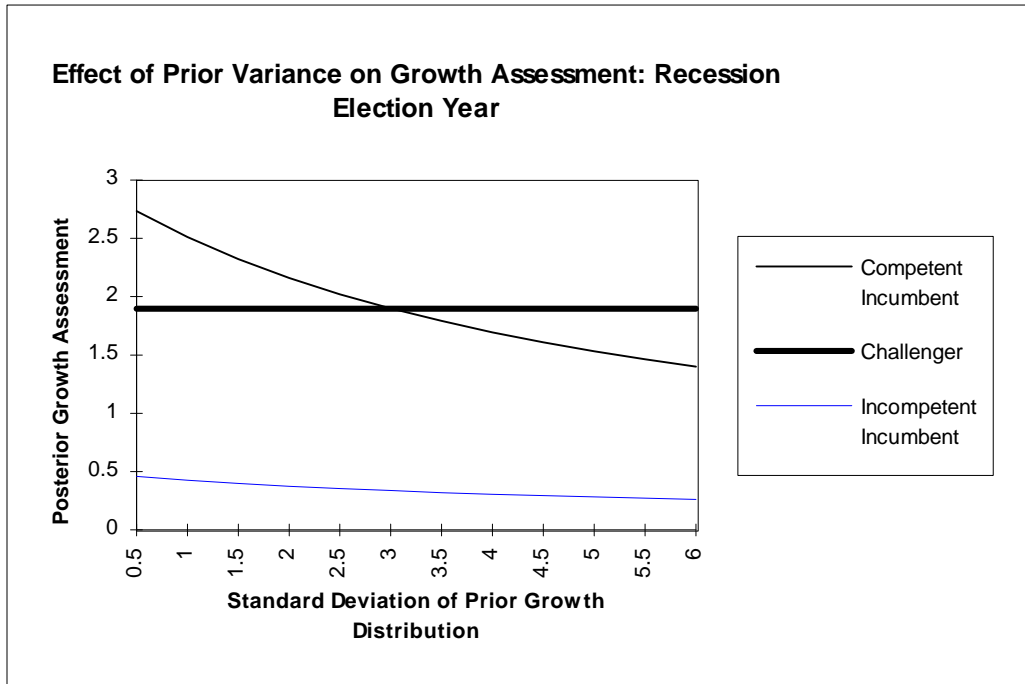


Figure 1.5.

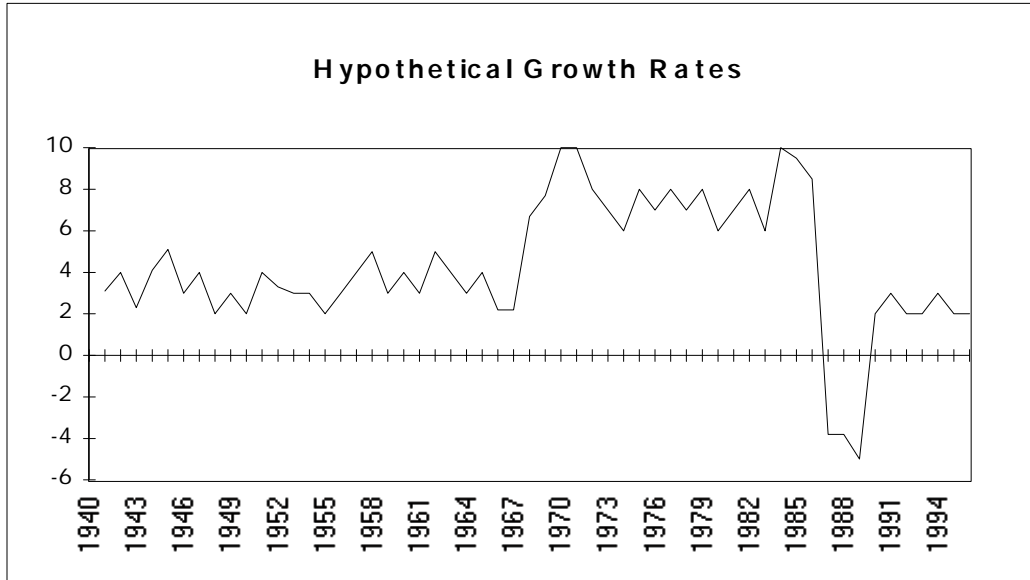


Figure 1.6.

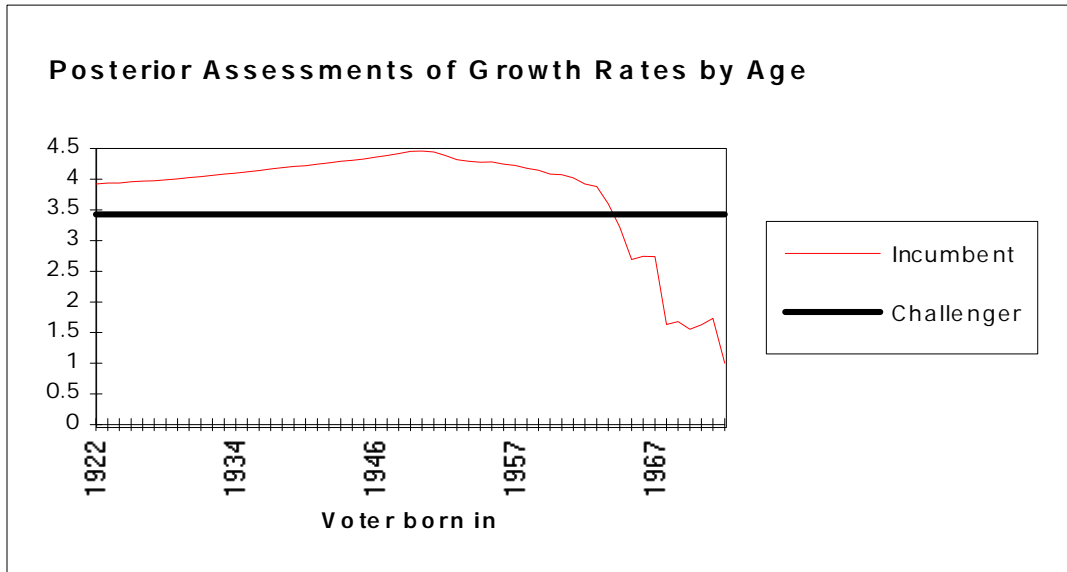


Figure 1.7.

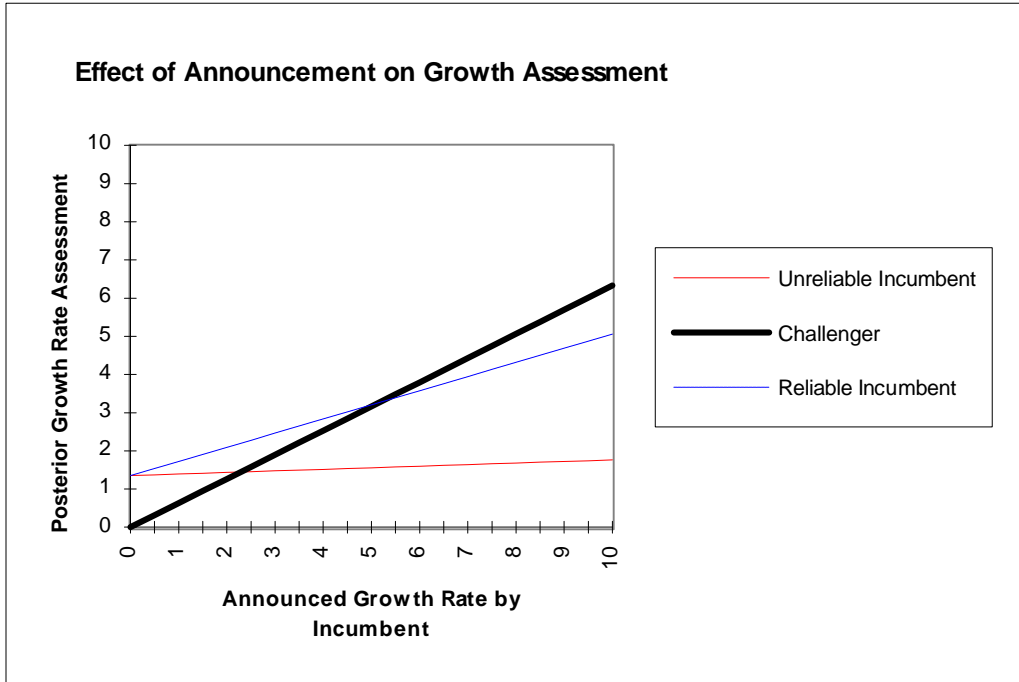


Figure 1.8.