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Democratization's Risk Premium: Partisan and Opportunistic Political Business Cycle Effects on Sovereign Ratings in Developing Countries

By: Steven Block, Burkhard N. Schrage and Paul M. Vaaler

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Steven Block
The Fletcher School of Law & Diplomacy
Tufts University, Medford, MA 02155
USA
Tel (617) 627-2717
Fax (617) 627-3712
Email steven.block@tufts.edu

Burkhard N. Schrage
Center for Innovation, Technology and Policy Research
Instituto Superior Técnico
Av. Rovisco Pais
1049-001 Lisbon
PORTUGAL
Tel (+351) 218417000
Fax (+351) 218499242
Email bschrage@web.de

&

Paul M. Vaaler
The Fletcher School of Law & Diplomacy
Tufts University, Medford, MA 02155
USA
Tel (617) 627-2243
Fax (617) 627-3712
Email paul.vaaler@tufts.edu

*Please contact Paul M. Vaaler regarding this paper: Paul M. Vaaler, Associate Professor of International Business, The Fletcher School of Law & Diplomacy, Tufts University, Medford, MA 02155, Tel (617) 627-2243, Fax (617) 627-3712, Email paul.vaaler@tufts.edu.

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Abstract

We use partisan and opportunistic political business cycle ("PBC") considerations to develop a framework for explaining election-period decisions by credit rating agencies ("agencies") publishing developing country sovereign risk-ratings ("ratings"). We test six hypotheses derived from the framework with 482 agency ratings for 19 countries holding 39 presidential elections from 1987-2000. We find that ratings are linked to the partisan orientation of incumbents facing election and to expectations of incumbent victory. Consistent with the framework, rating effects are sometimes greater for right-wing compared to left-wing incumbents, perhaps, because partisan PBC considerations with right-wing (left-wing) incumbents reinforce (counteract) opportunistic PBC considerations.

Keywords: economics; elections; developing countries; ratings

JEL codes: D72, F30, F34, G12, G14, G15, G29

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Non-Technical Summary

This empirical study investigates the impact of developing country electoral politics on private, often foreign-based financial actors making decisions about risks associated with developing country lending and investment. Since the 1970s, political business cycle ("PBC") theory has been debated among academic researchers largely in the context of industrialized democracies and almost exclusively in the context of interactions among domestic political stakeholders, such as between elected incumbents and voters. Early, so-called "opportunistic" PBC models posited opportunistic politicians using expansionary fiscal, monetary and related policies during elections to boost their chances of retaining office, even if such policies have detrimental economic consequences in the post-election period. Later, so-called "partisan" PBC models also assumed that candidates championed economic policies for electoral purposes; however, their policies differed markedly with right-wing candidates characteristically emphasizing lower inflation, and left-wing candidates preferring lower unemployment. Empirical researchers using PBC models have generally chosen either the opportunistic or the partisan branches, even though both may be relevant to explaining the behavior of individuals, firms and governments during election periods.

Our paper differs in many ways from this previous stream of research. We focus on the impact of PBC-related factors on private, foreign based financial actors rather than on domestic elected officials and voters. We focus on developing countries where PBC-related factors are less studied rather than on industrialized countries. Finally, we examine the PBC-related behaviors of private, foreign-based financial actors using both opportunistic and partisan PBC model assumptions, rather than choose one or the other branch of models. We do this in the context of major credit rating agencies ("agencies") from the US, UK, and other industrialized countries. Agencies provide advice to and certify the creditworthiness of borrowers from developing countries (*e.g.*, Moody's Investor Services, Standard & Poor's). Indeed, agencies facilitate credit transactions for developing country borrowers by publishing letter-grade sovereign risk ratings ("ratings"), commonly understood and relied on by capital market participants. Previous research in international finance and economics shows that changes in their ordinal scales of creditworthiness ranging from "AAA" (very creditworthy) to "C" (great credit risk) can have significant short-term effects on market determined credit spreads for developing country debt instruments, market trading volume for which reached $2.8 trillion in 2000.

Our study proposes that private, often foreign-based financial actors including agencies, care about such PBC-related considerations, and "vote" on the sovereign creditworthiness of developing countries during election periods based on such considerations. To the extent that an incumbent's pre-election spending sprees or the likely electoral victor's partisan economic policy choices are perceived by agencies to undermine sovereign financial commitments, election-period assessments of creditworthiness could become markedly less favorable with negative implications for the cost and availability of capital for the developing country.

We develop a conceptual framework for understanding how agency decisions may be shaped by partisan and opportunistic PBC considerations, and then derive and test several hypotheses from the framework, which is illustrated below:

Predicted Directions of Election-Period Rating Changes by Agencies Based on Partisan and Opportunistic PBC Considerations

Incumbent Partisan Orientation → Agency Electoral Expectation ↓	**r (Right-Wing)**	**l (Left-Wing)**
Right-Wing Expected to Win	(0,0)	(+,-)
Mixed Expectations	(-,-)	(+,-)
Left-Wing Expected to Win	(-,-)	(0,0)

Predicted directions stated in each cell: (Partisan, Opportunistic).

Given the partisan orientation of the incumbent facing election (Right-Wing or Left-Wing), and given the expectations of his/her re-election at the time the agency does its annual rating review, we can predict the direction of any change in the agency rating using opportunistic and partisan PBC considerations. We assume that right-wing incumbent policy preferences favor creditor interests (and thus induce better agency rating assessments). If there is a right-wing incumbent facing election and expected to win, then there is likely to be no change in the agency rating (0,0): From a partisan PBC perspective, current right-wing policies favorable to creditors are likely to continue after the election; from an opportunistic PBC perspective, the expectation of right-wing electoral victory puts little pressure on the incumbent to engage in pre-election spending sprees meant to buy votes, again assuaging the credit concerns of the agency. Likewise, if there is a left-wing incumbent expected to win, both partisan and opportunistic considerations indicate no change in agency rating (0,0).

Interestingly, though, the predicted direction of agency ratings during election periods differs for countries with right- versus left-wing incumbents once electoral expectations become mixed or it becomes clear that the challenger to the incumbent is likely to win. For instance, with a right-wing incumbent, uncertainty regarding the eventual electoral outcome –what we call "mixed expectations"— or likely ouster by a left-wing candidate acts like a double negative pushing down agency ratings in election years (-,-): From a partisan PBC perspective, the prospect of possible or likely partisan shift unfavorable to creditors will prompt an agency downgrade; from an opportunistic PBC perspective the possibility (mixed expectations) or expectation of left-wing victory is likely to prompt the right-wing incumbent to engage in a spending spree meant to buy votes and stave off electoral defeat, a prospect that also depresses agency ratings. With left-wing incumbents, the predicted effects of partisan and opportunistic PBC considerations are not mutually reinforcing as in right-wing incumbent cases, but mutually counteracting. When expectations of left-wing incumbent victory are unclear (mixed expectations) or if ouster by a right-wing challenger is likely then the PBC effects on agency ratings are both positive and negative (+,-): From a partisan PBC perspective, the possibility or great likelihood of a partisan switch to creditor-friendly right-wing policies will positively affect agency ratings; from an opportunistic PBC perspective, however, the possibility or great likelihood of losing out to the right-wing challenger will prompt the left-wing incumbent to engage in a spending spree to buy votes, a prospect that will negatively affect agency ratings.

To test these predictions drawn from partisan and opportunistic PBC models, we collected data on 482 major agency ratings published by five major agencies (Moody's, S&P, Duff Credit Ratings, Fitch-IBCA and Thomson BankWatch) for 19 developing country sovereigns holding 39 presidential elections from 1987-2000. We analyzed these data in probit regression models that also included a range of control variables found in previous research to influence agency ratings. Our regression analyses revealed substantial evidence consistent with our framework illustrated above. We found significant negative effects on sovereign ratings for developing countries with right-wing incumbents facing left-wing challengers likely to defeat them, or at least, likely to make it a "close call" for the right-wing incumbent on election day. By contrast, election-period ratings did not fall significantly when the right-wing incumbent was likely to be re-elected. We also found that the magnitude of rating effects may at times be greater in absolute terms for right-wing versus left-wing incumbents. This result is also important because it confirms in part our proposition that partisan and opportunistic PBC considerations tend to reinforce one another with right-wing incumbents, but tend to counteract one another in the case of left-wing incumbents.

These results and others suggest to us that agencies behave consistently with partisan and opportunistic PBC considerations, and exact a risk premium on developing countries during election periods based on these considerations. The changes in agency ratings we observed may, at first glance, seem small. For example, we observed only a one-level drop in the 17-level ordinal scale (AAA = 16 to C = 0) agencies ordinarily use to assess sovereign creditworthiness during election years when right-wing incumbents were likely to lose to left-wing challengers. But even a one-level drop in a developing country's agency rating can be significant. The average agency rating in our sample is very near the cut-off between investment grade (BBB- = 7) and non-investment "junk" grade (BB+ = 6). If electoral factors related to the opportunistic and partisan nature of competing political parties can move agency ratings even one level in this context –from junk to investment grade or *vice versa*-- they may have a substantial impact on the pricing and availability of capital for investment and development.

We think our findings have substantial practical management and public policy implications as well as implications for academic researchers. First, PBC considerations and analytical models may have a substantial power in explaining the risk perceptions of agencies and, perhaps, other individuals (*e.g.*, banks, multinational corporations, donor government agencies) involved in international capital pricing and allocation to the developing world. Second, future research using PBC models should seek to integrate partisan and opportunistic PBC factors rather than treat one or the other in isolation. Third, developing country governments and political parties more generally might benefit from more active engagement and dialog with agencies that otherwise show a tendency to penalize or reward countries with different ratings based on a rather simple set of PBC considerations. Fourth, the agencies themselves, might benefit from closer examination of their rating processes and biases seemingly tied to PBC considerations.

Such related issues are relevant, not only to the PBC literature as it is increasingly extended to developing countries, but also to broader issues of the relationship between democracy and growth. While in the long run, democracy undoubtedly is a good in itself, its long-term benefit may be offset by the short- to medium-term perception that competitive elections induce costly economic misbehavior of both partisan and opportunistic sorts. To the extent that this perception increases the cost and reduces the supply of capital to developing countries, it imposes a "risk premium" on democracy that is still nonetheless worth paying.

1. Introduction

> "Standard & Poor's today lowered its long-term local and foreign currency sovereign credit ratings on the Federative Republic of Brazil…given the worsening domestic debt profile and heightened market concerns over political uncertainties…presently and after the October presidential elections…"
>
> Excerpt from Standard & Poor's *RatingsDirect*, July 2, 2002 (Issued four months prior to October 2002 presidential elections ousting the center-right incumbent Social Democratic Party and electing leftist Worker's Party candidate Luiz Ignacio Lula da Silva) (S&P, 2002)

This study investigates the impact of developing country electoral politics on private, often foreign-based financial actors making decisions about risks associated with developing country lending and investment. Since the seminal papers of Nordhaus (1975), Lindbeck (1976) and Tufte (1978), political business cycle ("PBC") theory has been debated largely in the context of industrialized democracies and almost exclusively in the context of interactions among domestic political stakeholders, such as between elected incumbents and voters. These original models, as well as more recent models developed by Rogoff and Siebert (1988) and Rogoff (1990) posited opportunistic politicians using expansionary fiscal, monetary and related policies during elections to boost their chances of retaining office, even if such policies have detrimental economic consequences in the post-election period. PBC models developed by Hibbs (1977, 1987), Alesina (1987; 1988), Alesina *et al.* (1997) and Drazen (2000b) also suggest that candidates champion economic policies for electoral purposes; however, their policies differ markedly with right-wing candidates characteristically emphasizing lower inflation, and left-wing candidates preferring lower unemployment.

While a substantial stream of empirical studies from the US and other industrialized democracies has yielded a mixed bag of supporting and contrary results regarding both these opportunistic and partisan PBC behaviors, recent reviews of PBC research in Alesina and Roubini (1997), Drazen (2000a, b), Franzese (2002) and others (*e.g.*, Block and Vaaler, 2003) indicate that there has been much less empirical testing to date in developing country settings. Research in these settings has been largely in the opportunistic rather than partisan PBC branch, and focused on explanation of domestic interactions between elected officials and election policies on the one hand and voters on the other hand.

Yet, PBCs of a partisan or opportunistic nature may also have important implications for various foreign-based actors crucial to developing country investment and economic growth. For example, major credit rating agencies ("agencies") from the US, UK, and other industrialized countries provide advice to and certify the creditworthiness of borrowers from developing countries. Indeed, agencies facilitate credit transactions for developing country borrowers by publishing letter-grade sovereign risk ratings ("ratings"), commonly understood and relied on by capital market participants. Studies by Cantor and Packer (1996a; 1996b), Larraín *et al.* (1997), and Kaminsky and Schmukler (2002) show that changes in this 17-point ordinal scale of letter grades ranging from virtually no (16 = AAA) to great (0 = C) credit risk[1] can have significant short-term effects on market determined credit spreads for developing country debt instruments, market trading volume for which reached $2.8 trillion in 2000 (EMTA, 2000).

In this context, it is interesting that partisan and opportunistic PBC lenses have only occasionally been applied to developing countries, and then, almost never to explain interactions between politicians and non-voting constituencies. Arguably, competitive democratic elections potentially prompting both partisan and opportunistic PBC behaviors could substantially affect not only voters but also other individuals, including those involved in allocation and pricing capital for investment and development. As Goldsmith (1994) notes, development of competitive democratic electoral systems was thought by many to promote greater stability and, in turn, enhance long-term attractiveness for lending and investment purposes. On the other hand, the prospects of excessive opportunism prior to voting and adverse partisan policies after the vote could leave the country with a much less attractive profile for creditors and investors, at least in the short- to medium-term.

Our study proposes that private, often foreign-based financial actors including agencies, care about such PBC-related considerations, and "vote" on the sovereign creditworthiness of developing

[1] In terms of the two most prominent agencies, Moody's Investor Service ("Moody's") and Standard & Poor's Rating Services ("S&P"), these 17 ordinal levels are: Aaa for Moody's (AAA for S&P) = 16; Aa1 (AA+) = 15; Aa2 (AA) = 14; Aa3 (AA-) = 13; A1 (A+) = 12; A2 (A) = 11; A3 (A-) = 10; Baa1 (BBB+) = 9; Baa2 (BBB) = 8; Baa3 (BBB-) = 7; Ba1 (BB+) = 6; Ba2 (BB) = 5; Ba3 (BB-) = 4; B1 (B+) = 3; B2 (B) = 2; B3 (B-) = 1; and C (C) = 0. Other major US and overseas agencies rating sovereigns during the 1990s (*e.g.*, UK-based International Bank Credit Analysis, Canada/US-based Thomson Bank Watch, and US-based

countries during election periods based on such considerations. To the extent that an incumbent's pre-election spending sprees or the likely electoral victor's partisan economic policy choices are perceived by agencies to undermine sovereign financial commitments, election-period assessments of creditworthiness could become markedly less favorable with negative implications for the cost and availability of capital for the developing country.

We develop a conceptual framework for understanding how agency decisions may be shaped by partisan and opportunistic PBC considerations, and then derive six hypotheses from the framework. Regression analysis of 482 agency ratings for 19 developing country sovereigns holding 39 presidential elections from 1987-2000, reveals substantial evidence consistent with our framework. We find significant negative effects on sovereign ratings for developing countries with right-wing incumbents facing left-wing challengers likely to defeat them, or at least, make it a "close call" for the right-wing incumbent on election day. By contrast, election-period ratings do not fall significantly when the right-wing incumbent is likely to be re-elected. We also find that the magnitude of rating effects may at times be greater in absolute terms for right-wing versus left-wing incumbents. As we explain below, these distinctions may be because partisan and opportunistic PBC considerations tend to reinforce one another with right-wing incumbents, but tend to counteract one another in the case of left-wing incumbents. These results and others suggest that agencies behave consistently with partisan and opportunistic PBC considerations, and exact a risk premium on developing countries during election periods based on these considerations.

The remainder of this study is divided into five additional sections. Section 2 describes the relevant theory and empirical findings for opportunistic and partisan PBCs applied to traditional incumbent government-domestic voter interactions, and to interactions with the private financial actors of central interest in this research. Section 3 summarizes our conceptual framework for analyzing agency rating decisions using partisan and opportunistic PBC considerations, and six framework-derived

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Fitch Investor Services and Duff & Phelp's Credit Rating Company) use letter-rankings similar to S&P's. For more on agency

hypotheses for empirical investigation. Section 4 describes the methodology for testing these six hypotheses. Section 5 presents descriptive and regression analysis results using various specifications. Section 6 concludes by discussing the findings' implications for partisan and opportunistic PBC research and policy.

2. Research Background

Opportunistic and Partisan PBC Theory

Traditional partisan PBC models originated with Hibbs (1977, 1987), who argued that politicians seeking election tended to adopt economic policies according to ideological preferences. His explanation distinguished the partisan branch of PBC research from an opportunistic branch originating in Nordhaus (1975, 1989), who contended that election-period economic policy choices were based more on the general support they would generate from voters with homogenous preferences. While early models assumed naïve voters with adaptive expectations and capabilities to anticipate incumbent policies during election periods, models developed later by Rogoff and Siebert (1988) and Rogoff (1990) posited voters with rational expectations and relative ease at anticipating election-period spending sprees by politicians.

According to traditional partisan PBC models, incumbents again use economic policy to garner voter support, but based on their partisan political orientation, they will prefer economic policies with different emphases to accomplish this end. In terms of a simple Phillips curve approach, left-wing incumbent policies will tend to favor employment at the expense of inflation, while right-wing incumbent policies favor inflation at the expense of employment. Because voter preferences are assumed to be heterogeneous based on these types of partisan preferences, such policy differences can generate substantial differences in political support during election periods, substantial differences in employment, inflation and economic growth after elections, and substantial right-left partisan swings across several election periods (Drazen 2000b).

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ratings and the industrial organization of the sovereign rating business see, *e.g.*, White (2001).

Alesina (1987; 1988) and others (*e.g.*, Alesina and Rosenthal, 1993) refined traditional partisan PBC models to be consistent with rational-expectations assumptions. So-called rational partisan cycle ("RPC") models assume a less exploitable Phillips curve compared to traditional partisan PBC models. Thus, Alesina *et al.* (1997) argue that the main difference between traditional partisan PBC and RPC models is that real effects of partisan shifts in government tend to persist in traditional models but is temporary in rational models.

Empirical Evidence of Opportunistic and Partisan PBCs

Recent reviews of the PBC research chronicle a growing empirical literature, but with more growth in the opportunistic rather than partisan PBC branches, and with much more work in both branches in industrialized country rather than developing country contexts. While evidence supporting opportunistic PBCs in industrialized countries is, to date, mixed, empirical studies in developing countries consistently find support for the proposition that incumbents may employ expansionary monetary, fiscal and related policies during election periods to gain voter support on the final election day.[2] Schuknecht (1999), for example, finds evidence of electioneering in the form of expansionary fiscal policies during electoral campaigns for several developing countries with fixed exchange rate regimes from the 1970s to the early 1990s. Block (2002) also finds evidence of opportunistic behavior in the fiscal and monetary policies in a sample of African countries covering the 1980s and 1990s. Block and Vaaler (2003) find that the prospect of such electioneering in developing countries may explain agency downgrades in sovereign ratings, and increases in market determined spreads on sovereign bonds in the 1980s and 1990s.

Our literature review finds only sparse application of partisan PBC theory in non-industrialized democracies, and practically nothing applying to interactions between politicians and private actors. Imbeau's (2001) meta-study illustrates the mainstream of partisan PBC research to date: An examination of 693 cross-sectional estimates from 43 different studies of left-right party impact on policy in OECD

[2] By "final election day" we mean the date or dates of the general election, or in the case of multiple electoral rounds, the date or dates of the run-off election. For the remainder of this study, we use the terms "election day" to refer to this final election day concept.

countries yields some conflicting results, but overall strong evidence of partisan cycles fiscal, monetary and related policies in multivariate studies for periods after 1973.

In moving from politician-voter to politician-private actor interactions, the population of partisan PBC empirical research thins considerably. Alesina *et al.* (1997) study the effects on US bond forward rates related to the probability of Democrat (left-wing) versus Republican (right-wing) presidential victories from 1948 to 1988: Increases in the probability of Democrat victory on election day are associated with higher forward rates compared to favorable changes in the electoral prospects of Republican presidential candidates. On the other hand, evidence from Santa-Clara and Valkanov (2003) suggests that US stock market returns in the post-World War II period have actually been higher under Democrat rather than Republican governments. Bachman's results (1992) link changes in bias in forward exchange rates to changes in government, though follow-on work by Bernhard and Leblang (2002) finds no significant link between bias in forward exchange rates and either the partisan orientation of the government or change in partisan orientation.

As we further refine the search for previous research using partisan PBC models to explain politician-private actor interactions in developing countries, we find only Leblang's (2002) recent study on the likelihood of speculative attacks on developing country currencies during election periods. He found that they were more likely during election periods with left- rather than right-wing incumbents, and more likely in the post- rather than pre-election period. Though only a single study about a single group of private actors, Leblang's results suggest that partisan PBC perspectives may have relevance for more than just currency traders assessing developing country vulnerability to speculative currency attacks. Political trends in developing countries fostering democratization and PBCs on the one hand, and economic trends increasing private lending and investment on the other hand, no doubt implicate a much broader group of private actors, including agencies.

3. Empirical Background, Conceptual Framework and Hypotheses

Agency Rating Decisions and PBC Considerations: A Conceptual Framework

Agency sovereign risk assessment and rating publication processes tend to be discrete, deliberate, costly and, therefore, infrequent process that may not occur simultaneously with developments materially affecting a given risk assessment.[3] In the case of elections, this means that agencies must often resort to forecasting likely outcomes days, weeks or even months before election day. Indeed, even when the initial rating or review process coincides or immediately follows election day, there may yet be residual uncertainty as to the final victor (*e.g.*, US presidential election in November 2000) and the victor's ability to implement policies advocated on the campaign trail. In sum, agencies often have to forecast likely electoral outcomes and policies against the backdrop of uncertainty.

Our fundamental research proposition is that considerations linked to PBC opportunism and partisanship may enter significantly into agency risk assessments made during election periods with varying degrees of uncertainty. To illustrate this proposition and to generate hypotheses for empirical investigation, we develop below a conceptual framework for agency decision-making drawing on both partisan and opportunistic PBC theoretical perspectives.

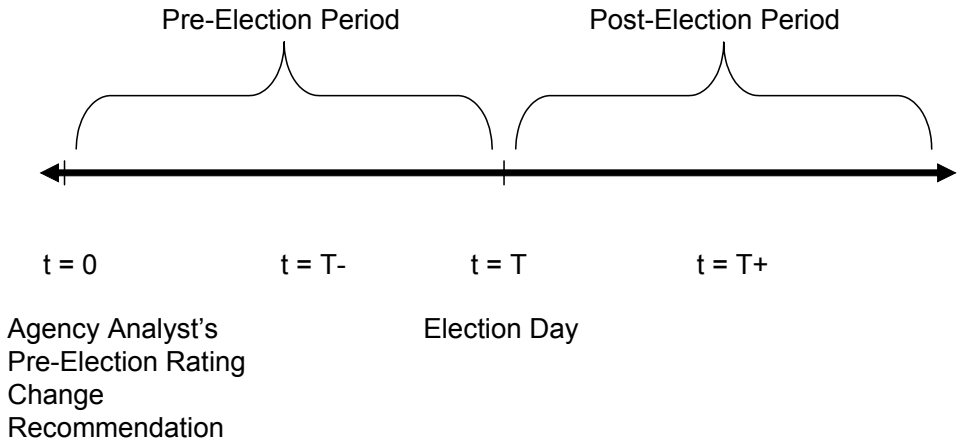
Consider an agency conducting an annual review of a developing country's sovereign rating during an election period. This review could occur at any time during the election period, but for purposes of clarifying our framework, assume that it occurs at time $t = 0$, just before the election campaign begins. The election campaign takes place during time $t = T-$. Election day is at time $t = T$, and

[3] As Cantor and Packer (1994) and others (*e.g.*, McNamara & Vaaler, 2002) have pointed out, sovereigns generally invite an agency to give a rating in order to provide investors with credible information about capability and willingness to honor financial commitments, to enhance financial transparency, and to facilitate placement of debt, particularly with US institutional investors. An initial rating process can last from several weeks to several months and involve substantial costs to the agency. Teams of from three to seven analysts are engaged in data collection, interviews and analysis both at the agency and in-country. Senior executives review analyst reports, decide on provisional ratings, handle "appeals" from representatives of the sovereign, and then publish final ratings. Since initial ratings are frequently completed with an actual securities offering, agencies are often compensated with a percentage of the offering's face amount, which can run as high as 2-3%. Once published, ratings are subject to regular review, usually on an annual or a semi-annual basis, unless material, unexpected developments require an extraordinary review. Regular or extraordinary reviews tend to be summary versions of the original rating process, involving several agency analysts, senior executives, and sometimes, representatives from the rated sovereign.

the subsequent post-election period is $t = T+$, when the winning candidate will then seek to implement various economic policies materially affecting sovereign creditworthiness:

FIGURE 1

Agency Rating Review and Election Timeline



Further assume that the agency conducting this review is concerned with partisan and opportunistic PBC considerations influencing overall sovereign risk. In that case, its decision rule regarding a recommendation either to upgrade, downgrade, or maintain the current sovereign risk rating can be summarized as:

$$\Delta R_{0,i}^{P,O} = f\left(\Delta R_{0,i}^{P}, \Delta R_{0,i}^{O}\right) \qquad i = r, l \tag{1}$$

where ΔR_0 is the change in the agency rating at time $t = 0$, the superscripts (P, O) indicate respectively the change with respect to partisan or opportunistic PBC considerations, and the subscripts (r, l) define respectively whether the incumbent is from a right-wing or a left-wing party.

The Partisan Dimension

Consider first the partisan dimension, $\Delta R_{0,i}^{P}$. Assume that the agency's decision rule for partisan considerations takes the form:

$$\Delta R_{0,i}^{P} = -g\left(\pi_{T+}^{e} - \pi_{i}\right) \tag{2}$$

where π_i is the inflation rate at time $t = 0$ for incumbent from party i, π^e_{T+} is the expected inflation rate in the post-election period ($T+$), and $g(\cdot)$ is a step function that translates the continuous difference within the function into discrete changes in agency rating. Equation (2) assumes that the greater the difference between expected post-election inflation and the current inflation imposed by party i, the larger the downgrade at $t = 0$. A fundamental assumption of partisan PBC theory is that right-wing incumbents are willing to suffer higher unemployment for the sake of lower inflation, while left-wing incumbents impose the opposite preferences. We thus assume that $\pi_r < \pi_l$. We further adopt the implication of traditional partisan theory (Hibbs, 1977) that parties are able to impose their preferences over inflation throughout their tenure.[4] This implies in our context that $\pi_{t=0,i} = \pi_{T-,i} = \pi_{T+,i} = \pi_i$. Expected post-election inflation (π^e_{T+}) is thus an average weighted by the agency's subjective probability (λ) that the right-wing party will win on election day:

$$\pi^e_{T+} = \lambda\pi_r + (1-\lambda)\pi_l \qquad for \quad 0 \le \lambda \le 1 \tag{3}$$

Substituting (3) into (2) yields the agency's decision rule with respect to partisan considerations:

$$\Delta R^P_{0,i} = -g\left(\left[\lambda\pi_r + (1-\lambda)\pi_l\right] - \pi_i\right) \tag{4}$$

The implications of this decision rule depend on which party is incumbent. For right-wing incumbents ($i = r$), as $\lambda \to 0$, $\pi^e_{T+} \to \pi_l$ and $\Delta R^P_{0,i} \to -17$ (*i.e.*, the agency chooses to downgrade, with

[4] This choice lies in contrast to RPC theory (Alesina, 1987), which assumes incumbents are able to impose their inflationary preferences only during the first half of the tenure. Our choice in this regard rests on our focus on developing countries, many of which are nascent democracies in which voters may be less experienced and or may have less-efficient means of implementing strategies anticipating likely partisan policies. In any case, voters in these countries may not meet the requirements of "rational" voters in the formal sense. This distinction has been defined by whether voters vote retrospectively (*e.g.*, whether they reward incumbents based on recent rather than expected future economic performance). It therefore seems reasonable to assume that "new" voters in developing countries may exhibit retrospective voting patterns, particularly in light of evidence of retrospective voting even in the U.S. (Fair, 1978, 1982, 1988). While retrospective voting can be "rational" (Rogoff, 1990), we assert that on balance, traditional retrospective voting best characterizes the "typical" voter in developing countries.

greater differences between expected and current inflation bringing greater downgrades).[5] In the limiting case of the certain retention of a right-wing incumbent (λ = 1), expected inflation equals current inflation and $\Delta R^{P}_{0,r} = 0$ (*i.e.*, the agency retains its current rating at time *t* = 0). That is, if there is any substantial chance of a right-wing incumbent losing to a left-wing candidate, the agency expects increased inflation in the post-election period and, thus, tends toward a downgrade. In this context, the "best" case scenario from the agency's perspective is the certain retention of a right-wing incumbent, in which case expected inflation equals current inflation, and the agency maintains the current rating. Note that partisan considerations exclude upgrades for right-wing incumbents during election periods.

For left-wing incumbents (*i* = *l*), as $\lambda \to 1$, $\pi^{e}_{T+} \to \pi_{r}$ and $\Delta R^{P}_{0,i} \to 17$ (*i.e.*, the agency upgrades, increasingly so as expected inflation falls further below current inflation). In the limiting case of the certain retention of a left-wing incumbent (λ = 0), expected inflation equals current inflation and $\Delta R^{P}_{0,l} = 0$ (i.e., the agency retains its current rating at *t* = 0). That is, if there is any substantial chance of a right-wing candidate replacing a left-wing incumbent, expected inflation must be lower than current inflation, and the agency tends toward an upgrade. The "worst" case scenario from the agency's perspective is the certain retention of a left-wing incumbent, in which case expected inflation equals current inflation, and the agency again maintains the current rating. Note that partisan considerations exclude downgrades for left-wing incumbents during election periods.

The Opportunistic Dimension

So far, our agency decision rule has relied on PBC considerations of an exclusively partisan nature. Opportunistic PBC theory rests on the assumption that incumbents are identical with respect to policy preferences. In this case, there is no distinction between inflation under right-wing and left-wing incumbents. We assert in this case simply that if an incumbent of either party faces a low probability of re-election, she will be motivated to act opportunistically in the pre-election period. Opportunistic PBC

[5] Recall that ratings are commonly expressed in terms of a 17-point scale running from 16 ("AAA") to 0 ("C"). A change of 17

theory (*e.g.*, Nordhaus, 1975; Rogoff, 1990) predicts she will be more likely to engage in expansionary fiscal, monetary and related policies in an effort to generate votes. Theory further suggests that such "spending spree" policies are often financed by increased inflation in the post-election period. Schultz (1995) demonstrates that when incumbents trail in pre-election polls they are more likely to engage in opportunistic behavior than when they enjoy a solid lead in the polls. Block and Vaaler (2003) apply opportunistic PBC perspectives to explain why ratings for developing country sovereigns trend negatively in election years. Together, these results suggest that agencies may take rating decisions in light of both partisan *and* opportunistic PBC considerations related to likely electoral outcomes.

Consider now the opportunistic dimension, $\Delta R_{0,i}^{O}$. Assume in this case that the agency's decision rule takes the form:

$$\Delta R_{0,i}^{O} = -h\left(\pi_{T+,i}^{e} - \pi_{0,i}\right) \tag{5}$$

where $h(\cdot)$ is a step function (though not necessarily identical to $g(\cdot)$) that translates differences of the bracketed term into discrete changes in agency ratings. As before, expected inflation is an average weighted by the λ, yet in the opportunistic case the difference between expected post-election inflation and inflation at $t = 0$ is *not* a function of party. We assert simply that for either party, post-election inflation will exceed inflation at $t = 0$ if the incumbent's "back is against the wall" ($\lambda \cong 0$ for a right-wing incumbent, $\lambda \cong 1$ for a left-wing incumbent).[6]

In this context, expected inflation may be expressed as:

$$\pi_{T+,i}^{e} = \begin{cases} \lambda\pi_{0,i} + (1-\lambda)\pi_{i}^{+} & if\ i = r \\ \lambda\pi_{i}^{+} + (1-\lambda)\pi_{0,i} & if\ i = l \end{cases} \tag{6}$$

rating levels in either direction thus defines the maximum possible change in our framework.

[6] Thus, despite the absence of partisanship in opportunistic models, consistency in the definition of λ requires the inclusion of the party subscript (*i*) in equation (5).

where $\pi_i^+ > \pi_{0,i}$. This expression indicates that for a given party, the expectation of losing motivates opportunistic behavior and engenders higher post-election inflation than observed at $t = 0$. In the case of the certain retention of a right-wing incumbent, $\lambda = 1$, there is no substantial incentive to spend opportunistically during the election period. In that case, expected post-election inflation should be unchanged from current inflation at $t = 0$. This is also true for left-wing incumbents when $\lambda = 0$.

Substituting (6) into (5) yields the agency's decision rule with respect to opportunistic considerations:

$$\Delta R_0^O = -h\begin{pmatrix}\left(\lambda\pi_{0,r} + (1-\lambda)\pi_r^+\right) - \pi_{0,r} \\ \left(\lambda\pi_l^+ + (1-\lambda)\pi_{0,l}\right) - \pi_{0,l}\end{pmatrix} \tag{7}$$

As with the partisan dimension, the implications of this decision rule based on opportunistic considerations depend on which party is incumbent. For right-wing incumbents, this decision rule indicates that as $\lambda \to 0$, $\pi^e_{T+,r} \to \pi_r^+$ and $\Delta R^P_{0,i} \to -17$ (*i.e.*, the agency tends to downgrade in increasing magnitude with the subjective probability of the left-wing challenger replacing the right-wing incumbent). In the limiting case of $\lambda = 1$, expected inflation equals current inflation and $\Delta R_0^O = 0$ (*i.e.*, the agency retains its current rating at $t = 0$). If there is any chance of the incumbent losing, opportunistic considerations suggest higher post-election inflation than at $t = 0$, and the agency tends towards downgrade. In the "best" case scenario ($\lambda = 1$ when $i = r$), there is again no incentive for the right-wing incumbent to behave opportunistically and the agency maintains the current rating. Precisely the same logic pertains for left-wing incumbents: as $\lambda \to 1$, $\pi^e_{T+,l} \to \pi_l^+$ and $\Delta R^P_{0,i} \to -17$. In the limiting case, $\lambda = 0 \Rightarrow \Delta R_0^O = 0$.

Equation (1) requires that these partisan and opportunistic PBC considerations be merged to determine the agency's overall decision regarding sovereign risk during election periods. Table 1 summarizes our predictions of how the agency will react under various circumstances as defined above.

In each case, Table 1 indicates whether partisan and opportunistic considerations reinforce or counteract one another. The pair (P, O) in each cell indicates, respectively, whether the partisan and opportunistic considerations call for an upgrade (+), downgrade (-), or maintenance of the status quo (0).

TABLE 1

Predicted Directions of Election-Period Rating Changes by Agencies Based on Partisan and Opportunistic PBC Considerations

Incumbent Partisan Orientation → Agency Electoral Expectation ↓	**r (Right-Wing)**	**l (Left-Wing)**
$\lambda = 1$ (Right-Wing Expected to Win)	(0,0)	(+,-)
$0 < \lambda < 1$ (Mixed Expectation)	(-,-)	(+,-)
$\lambda = 0$ (Left-Wing Expected to Win)	(-,-)	(0,0)

Predicted directions stated in each cell: (Partisan, Opportunistic).

It is interesting to note that for right-wing incumbents, our framework suggests that partisan and opportunistic considerations reinforce one another; yet, except when a left-wing victory is certain, for left-wing incumbents these considerations work in opposition to one another. In those cells of Table 1 where the pair is (0,0), we predict no significant change in ratings during an election year. In those cases where the pair is (-,-) we predict a significant downgrade. In those cells where the pair is (+,-), the outcome is ambiguous *a priori*, and will depend empirically on whether agency decisions are dominated (perhaps systematically) by partisan or opportunistic PBC considerations.

Two modifications to the predictions in Table 1 help transform them into testable hypotheses. The first modification practically operationalizes λ, which would rarely, if ever, equal exactly 0 or 1 in any competitive electoral system (to which we limit our sample below). We do not directly observe subjective assessments by agencies regarding the probability of a right-wing victory. For purposes of our study, we instead construct λ based on the assumption that agencies are able to predict with reasonable

accuracy the outcomes of elections when elections are not close.[7] With this assumption, we infer that $\lambda = \lambda^{hi}$ in either of two scenarios: There was a right-wing incumbent who won by a large margin; or there was a left-wing incumbent who lost by a large margin. As described in greater detail below, we define a "large" margin to be an election outcome in which the winner's vote share exceeds the loser's by more than 3%. Similarly, we infer that $\lambda = \lambda^{lo}$ in either of two alternative scenarios: There was a right-wing incumbent who lost by a large margin; or there was a left-wing incumbent who won by a large margin. In the final two scenarios, the margin of victory for right- or left-wing incumbent was not large. In these scenarios, $\lambda = \lambda^{med}$.

A second modification to the results in Table 1 characterizes the relative magnitude of predicted outcomes as a function of λ. Given the opposing effects of partisan and opportunistic considerations under left-wing incumbents, the magnitude of our expected rating changes is not merely a function of λ. Indeed, as we have no *a priori* basis for asserting that either partisan or opportunistic considerations would systematically dominate the other, it is reasonable to conjecture that they will approximately cancel one another, leading to no change in rating. Thus, we predict that agencies will tend not to change ratings during election periods when the incumbent is left-wing.

In contrast, given a right-wing incumbent, our framework predicts a clear link between expectation of election-day victory and agency rating, since both partisan and opportunistic considerations are mutually reinforcing. Thus, for a "high" probability of a right-wing victory (λ^{hi}) we predict little, if any, downgrade pressure; here the probability of a right-wing victory is low (λ^{lo}) the downgrade will exceed in magnitude the downgrade issued when the election is a close call (λ^{med}).

With these two modifications to the predictions in Table 1, we hypothesize first about the overall sign and size of election-period rating changes given left- and right-wing incumbents as follows:

[7] Ideally, we would have regular polling data from each country for each election in our sample. As such data are unavailable to us, we are effectively making the assumption that those polling data were available to agencies at the time, and that they formed their subjective probabilities based on those polls. We are thus "seeing" the polling data retroactively through agency eyes.

H1: Given left-wing incumbents, agencies tend not to change election-period ratings, regardless of the likelihood of re-election (*i.e.*, $\Delta R_{0,l}^{P,O}\Big|_{\lambda=\lambda^{hi}} \cong \Delta R_{0,l}^{P,O}\Big|_{\lambda=\lambda^{med}} \cong \Delta R_{0,l}^{P,O}\Big|_{\lambda=\lambda^{lo}} \cong 0$).

H2: Given right-wing incumbents, agencies tend not to downgrade election-period ratings if re-election is likely, but do tend to issue downgrades if re-election is less likely (*i.e.*, $\Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{hi}} \cong 0, \quad \Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{med}} < 0, \quad \Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{lo}} < 0$).

H3: Given right-wing incumbents, election-period downgrades tend to be greater as the probability of re-election decreases (*i.e.*, $\Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{hi}} < \Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{med}} < \Delta R_{0,r}^{P,O}\Big|_{\lambda=\lambda^{lo}}$).

These first three hypotheses focus on election-period ratings related to differences in agency electoral expectations given a particular incumbent partisan orientation. Table 1 also suggests hypotheses about election-period ratings related to differences in incumbent partisan orientation given a particular agency electoral expectation. We state three such hypotheses for testing below. Each compares the absolute magnitude of election-period rating changes for right- versus left-wing incumbents given a particular agency electoral expectation:

H4: The absolute magnitude of election-period rating changes for right-wing incumbents expected to lose is greater than the absolute magnitude of such changes (if any) for left-wing incumbents expected to lose (*i.e.*, $\left|\Delta R_{0,r}^{P,O}\right|_{\lambda=\lambda^{lo}} > \left|\Delta R_{0,l}^{P,O}\right|_{\lambda=\lambda^{hi}}$).

H5: The absolute magnitude of election-period rating changes for right-wing incumbents expected to be re-elected is approximately equal to the absolute magnitude of such changes for left-wing incumbents expected to be re-elected (*i.e,* $\left|\Delta R_{0,r}^{P,O}\right|_{\lambda=\lambda^{hi}} \cong \left|\Delta R_{0,l}^{P,O}\right|_{\lambda=\lambda^{lo}} \cong 0$).

H6: The absolute magnitude of election-period rating changes for right-wing incumbents in "close call" elections is greater than the absolute magnitude of such changes (if any) for left-wing incumbents in "close call" elections (*e.g.*, $\left|\Delta R_{0,r}^{P,O}\right|_{\lambda=\lambda^{med}} > \left|\Delta R_{0,l}^{P,O}\right|_{\lambda=\lambda^{med}}$).

4. Methodology

Ratings Model and Hypothesis Tests

To test these six hypotheses, we specify an empirical model of agency ratings based on general rating factors commonly used by the agencies, and on specific election-period rating factors drawn from our conceptual framework:

$$RATING_{rit} = \beta_0 + \sum_{r=1}^{4} \alpha_r AGENCY + \sum_{i=1}^{18} \gamma_i COUNTRY + \sum_{t=1988}^{1999} \xi_t YEAR_t + \sum_{j=1}^{7} \psi_j MACRO_{it} + \beta_1 ELEC_{it} + \beta_2 RINC_{it} + \beta_3 (ELEC_{it} * RINC_{it}) + \beta_4 (\lambda \mathrm{D}_{it} * ELEC_{it}) + \beta_5 (\lambda \mathrm{D}_{it} * ELEC_{it} * RINC_{it}) + \mu_{rit} \quad (8)$$

In (8) the dependent variable, *RATING*, is the 17-level sovereign risk-rating on long-term foreign currency denominated debt published by agency *r* for sovereign from developing country *i* on December 31 of each year *t* from 1987 to 2000. Since *RATING* is the final assessment from the agency's characteristically annual review of macroeconomic and related factors shaping the long-term sovereign risk, it relies largely on macroeconomic and related data with approximately annual periodicity.

After including dummy variables to control for unobserved and possibly idiosyncratic effects related to *AGENCY*, *COUNTRY*, and *YEAR* in Equation (8), we next include seven macroeconomic and related controls variables, *MACRO*, for country *i* in year *t*. Final data on these seven terms may be published in year *t* only after the agency has completed its rating review. Agencies may have only forecast data for year *t* but complete and verifiable data for the previous year, *t-1*. Taking this possibility into account, we formulate measures for each of the seven as 2-year averages based on year *t* and the previous year *t-1* observations.

These seven macroeconomic control variables, for which ψ are parameter estimates, include: 1) Per capita income (*PCI*) measured in thousands of constant (1995) US dollars and expected to be positively related to *RATING*; 2) Economic growth (*GDPG*) measured as the average annual real *GDP* growth rate and expected to be positively related to *RATING*; 3) Inflation (*INF*) measured as the average annual consumer price inflation and expected to be negatively related to *RATING*; 4) Fiscal balance (*FISCBAL*) measured as the average annual overall budget balance relative to GDP and expected to be positively related to *RATING*; 5) External balance (*EXTBAL*) measured as the average current account balance relative to GDP and expected to be positively related to *RATING*; 6) External debt per GDP (*EXTDEBT*) measured as the sum of public, publicly guaranteed, and private non-guaranteed long-term debt, use of IMF credit, and short-term debt divided by GPD and expected to be negatively related to

RATING[8]; and 7) Recent default indicator (*DEF5*) measured as a 0-1 indicator (1 if in default; 0 otherwise), indicating whether the sovereign has defaulted on either its domestic- or foreign-currency denominated debt (excluding bank debt)[9] in the last five years, and expected to be negatively related to *RATING*. Previous research by Cantor and Packer (1996a; 1996b), Larraín *et al.* (1997), McNamara and Vaaler (2000, 2002), and Block and Vaaler (2003) show that these seven variables explain substantial variation in agency sovereign risk-ratings for industrialized and developing countries in the 1980s and 1990s.

Aside from these controls, the first independent variable related to PBC effects is whether the developing country held a presidential election in a current year ("*ELEC*"). This is measured as a 0-1 indicator (1 if there was an election in year *t*; 0 if not) and, consistent with previous research on opportunistic PBCs in developing countries, is expected to be negatively related to *RATING* (Block and Vaaler, 2003). Next, we introduce a 0-1 term indicating is whether the sovereign's incumbent government is right-wing (*RINC*) (1 if there is a right-wing incumbent at the beginning of year *t*; 0 otherwise). Consistent with partisan PBC perspectives, it is expected to be positively related to *RATING*. Finally, we introduce to Equation (8) expectations about the electoral outcome. λD is a dummy variable, which is constructed to capture agency expectations of right-wing electoral victory as:

$$\lambda D = \begin{cases} 1 \; if \;\; \lambda = \lambda^{hi} \\ 0 \; if \;\; \lambda = \lambda^{mid} \\ -1 \; if \;\; \lambda = \lambda^{lo} \end{cases}$$

Using this specification and Equation (8), we test Hypothesis 1 regarding the rough equality and absence of election-period rating changes as agency electoral expectations, λ, change for left-wing incumbents as:

H1: $\beta_1 + \beta_4 \cong \beta_1 \cong \beta_1 - \beta_4 \cong 0$.

[8] Alternative measurement of *EXTDEBT* dividing external debt by exports yields results from regression analysis of Equation (8) consistent with those presented below using our measure of *EXTDEBT*. These results are available from the authors on request.
[9] Sovereign default on bank debt is considered less severe than default on domestic- or foreign-currency bonds. For more on different types of sovereign defaults, see, *e.g.*, S&P (1999).

By contrast, we test Hypothesis 2 regarding differences in election-period rating changes as agency electoral expectations, change for right-wing incumbents as:

H2: $\beta_1 + \beta_3 + \beta_4 + \beta_5 \cong 0, \beta_1 + \beta_3 < 0, \beta_1 + \beta_3 - \beta_4 - \beta_5 < 0.$

The test of Hypothesis 3 adds additional restrictions related to the predicted hierarchy of election-period rating changes (downgrades) for right-wing incumbents as agency electoral expectations of right-wing victory at the polls dim:

H3: $\beta_1 + \beta_3 + \beta_4 + \beta_5 > \beta_1 + \beta_3 > \beta_1 + \beta_3 - \beta_4 - \beta_5.$

The next three hypothesis tests compare the absolute magnitude of election-period rating changes for right- versus left-wing incumbents at different agency electoral expectation levels. Using Equation (8), we test Hypothesis 4 and its greater absolute magnitude for right- versus left-wing rating changes given an agency electoral expectation of defeat as:

H4: $|\beta_1 + \beta_3 - \beta_4 - \beta_5| > |\beta_1 + \beta_4|.$

By contrast, the test of Hypothesis 5 regarding the rough equality and absence of rating changes for right- and left-wing incumbents expected by the agency to be re-elected is:

H5: $|\beta_1 + \beta_3 + \beta_4 + \beta_5| \cong |\beta_1 - \beta_4| \cong 0.$

But we test Hypothesis 6 regarding the greater absolute magnitude of election-period rating changes for right- compared to left-wing incumbents facing "closing call" elections as:

H6: $|\beta_1 + \beta_3| > |\beta_1|.$

Data Sources and Sampling

Elections. To test the hypotheses related to risk rating agencies we collected several types of data. First, we collected data on presidential elections held during the 1987-2000 period using the World Bank's Database of Political Institutions ("DPI") (version 3, described in Beck *et al.* 2001) a database providing comprehensive information through 1997 on election dates, electoral systems, electoral competitiveness, and candidate partisan orientation. Where the DPI database proved to be incomplete for certain elections held between 1998 and 2000, we turned to two alternative sources: The International

Foundation for Election Systems ("IFES") (2002); and the on-line version of the Political Reference Almanac 2001-2002 edition ("Polisci.com") (2002). Election-related information from these alternative sources was sampled using the same criteria as the DPI unless otherwise noted below. From the DPI, IFES and Polisci.com databases, we extracted dates of presidential elections where direct popular votes or indirect votes of legislators or specialized electors chose chief executives judged to exert substantial executive governmental power rather than mere state ceremonial duties as presidential heads of state tend to have in parliamentary systems.

Our decision to exclude non-presidential systems, most notably, parliamentary electoral systems, followed primarily from data observation and estimation issues. Elections in countries with presidential systems tend to follow fixed schedules. By contrast, executives in parliamentary systems often have substantial discretion in choosing the date of their re-election within an existing term in office. This distinction can lead to endogeneity problems in empirical models of PBC effects.

The DPI database also includes assessments of executive electoral competitiveness as measured by the extent of multi-party competition. The measure ranges from 1 (least competitive executive electoral systems) to 7 (most competitive executive electoral systems). All of the presidential elections to be sampled score 6 or 7 on this scale, indicating that they were "real" elections. These DPI classifications of competitive elections in 1997 were judged to continue through 2000. Using these general data sources, sampling approaches, and judgments, we arrived at a sample for empirical analysis consisting of 19 countries holding 39 presidential elections from 1987 to 2000.

Partisan Orientation. Our empirical analysis relies on identification of the partisan (left- versus right-wing) orientation of electoral candidates, particularly incumbent (government) candidates. The DPI, IFES and Polisci.com databases provided information on the partisan orientation of candidates, including characterization of their parties as left-wing, right-wing, centrist- or otherwise-oriented. Beck *et al.* (2001) explain the decision rules used for this DPI categorization. Basically, two types of classification criteria were used: content of party names; and judgments by academic and professional commentators. In terms of content, parties were defined as "right-wing" based on whether terms such as "conservative"

or "Christian democratic" were included in their names. A "left-wing" definition followed from party names with terms such as "communist" or "Marxist" or "socialist" or "social democratic." Failing a clear indication based on content, academic and professional commentator judgments were used. The "centrist" classification followed from no clear criteria based on party-name, thus academic and professional judgment was the primary source. Centrist parties advocated the strengthening of private enterprise but also supported some substantial redistributive role for government. Parties were placed in a fourth classification as "other" if both name-based and commentator-based criteria could not clearly classify them into left-wing, right-wing, or centrist-orientations. Using IFES and Polisci.com databases, we applied the same criteria to ascertain preliminary classifications for post-1997 elections not covered by DPI.

Noting the increased subjectivity associated with the centrist classification, as well as the similarities of central propositions in economic policy between centrist and right-wing governments, we chose to collapse centrist parties into the right-wing classification; thus, our final classifications are limited to two: left-wing and right-wing (including centrist). Where an incumbent party in our sample was classified as "other" by the DPI—and there were only three such instances—we consulted IFES and Polisci.com for additional information on which to make a judgment of left- versus right-wing party orientation.[10]

Electoral Expectations. In addition to electoral system and partisan classifications, our conceptual framework, hypotheses, and empirical model contemplate measurement of expectations of electoral victory by agencies. As noted earlier, we use the final electoral polling results to gauge retrospectively agency and bondholder expectations. DPI, IFES, Polisci.com and other sources[11] provided the basis for these data. We noted the final poll victor and the final margin of victory for each election in our sample. The victory margin was defined as the difference in percentage points between the winning

[10] Regression analysis results excluding observations we re-classified from "other" are completely consistent with those reported below, and are available from the authors on request.
[11] These other sources included government web sites of countries considered for inclusion in our sample.

and second-place (runner-up) candidates. We use the margin of victory to attribute a λ measurement to each election: 1) $\lambda = \lambda^{lo}$ for subjective expectation of left-wing victory; 2) $\lambda = \lambda^{hi}$ for subjective expectation of right-wing victory; and 3) $\lambda = \lambda^{med}$ for a "close call" subjective expectation. Elections fell into this third classification when the victory margin was less than 3% at the final poll, regardless of the victor's partisan orientation. [12]

Macroeconomic Controls. For the seven macroeconomic control variables in Equation (8), we collected annual data from 1986 to 2000 using the World Bank's World Development Indicators ("WDI") (World Bank 2002), and from Standard & Poor's Ratings Services (S&P, 1999, 2002), which provided information on defaults on US-dollar denominated sovereign bond issues during the period of study.

Agencies and Ratings. Bloomberg International (2002) on-line sources provided information on the six major agencies rating sovereigns at various times from 1987-2000.[13] For each year, the published agency rating on December 31 of that year, was measured on a 17-point (0-16) scale. Ratings in our final sample ranged from 0 to 13 on the numerical scale described above, and exhibited a mean of 5.5 (approximately 6 = BB+, the highest "junk" rating) and standard deviation of 2.9. Since ratings in our sample tend to be near the cut-off between junk and investment grade, even small changes –one or two rating levels-- can have important practical effects. For example, certain institutional investors may face regulatory restrictions on the percentage of non-investment grade debt in their portfolios. When ratings on issuers fall from investment to junk grade, their cost of debt typically increases substantially (Cantor and Packer, 1996a, b). Our final ratings sample comprised 482 annual ratings observations published by

[12] Changing the definition of "close call" election to victory margins of less than 5% or 10% does not change the signs observed on coefficient estimates reported below; however it does lessen the statistical significance of these estimates. Results using these alternative measures are available from the authors on request.

[13] Those major agencies are: 1) Duff & Phelps Credit Rating Company ("DCR"); 2) Fitch Investor Services ("Fitch"); 3) Thomson Bank Watch ("Thomson"); 4) International Bank Credit Analysis ("IBCA"); 5) Moody's Investor Service ("Moody's"); and 6) Standards & Poor's Ratings Services ("S&P"). These agencies all enjoyed designation by the US Securities and Exchange Commission as Nationally Recognized Statistical Rating Organizations ("NRSROs"). Various SEC regulations (*e.g.*, Rule 2a-7 of the Investment Company Advisors Act of 1940) require issuers to obtain ratings from one, more often two NRSROs before they can place their debt securities with institutional investors. For more on NRSRO status, *see, e.g.*, Hunt (2002). Or these major agencies, in 1987 only Moody's and S&P were actively engaged in rating developing country sovereigns. By 1994, all six agencies were publishing developing country sovereign ratings. From 1997-2000, however, the industry went through consolidation with Fitch merging or acquiring DCR, IBCA and Thomson to become the "third" agency in this and other rating businesses. For more on the changing industrial organization of rating agencies, see, *e.g.,* White (2001).

the major agencies for sovereigns from 19 developing countries holding 39 presidential elections from 1987-2000.[14] Of these 482 ratings, 108 covered election years.

Estimation Strategy

Previous empirical research on sovereign risk-rating estimation suggests different approaches for estimating Equation (8). Ordinary least squares regression provided the earliest approach (*e.g.*, Horrigan 1966; Cantor and Packer 1996a; 1996b), but n-level ordered logit or probit approaches are more appropriate given the ordinal nature of ratings (Zavoina and McElvey 1975). In practice, these different estimation approaches yield similar results when there are several levels in the ordinal scale. Our sample of ratings covers 13 of the possible 17 ordinal levels. Even so, we estimate the ratings based on ordered probit regression with additional adjustments to correct for cross-sectional heteroskedasticity and clustering.[15]

As checks on the robustness of our results, we re-estimate Equation (8) with two modifications. Following research by Alesina *et al*. (1997) and others, we noted that many PBC-related behaviors anticipating elections early in year *t*, may in fact occur substantially in year *t-1*. To address that possibility, we reviewed our sample for ratings observations for country-years with elections occurring in the first quarter of year *t*. We identified three such "early election" observations, and replaced each in with the previous year's ($RATING_{rit-1}$) rating observation.

A second modification related to the timing of agency ratings during election years. Our conceptual framework contemplates agency rating change decisions taken in advance of election-day, which could occur throughout year; however, our election year rating observations are consistently taken

[14] One of the major agencies, Fitch, published only one sovereign rating and did not appear to pursue any sovereign rating business prior to 1997 when it acquired IBCA. We therefore dropped the one pre-1997 Fitch observation, leaving only five different agencies in our sample.

[15] Note from the subscripts in Equation (8) that, in some cases, the data set permits multiple agency ratings for the same country in a given year. The cross-section in our sample is, therefore, defined as unique combinations of agency and country, *e.g*., Moody's-Argentina, S&P-Argentina. Accordingly, we use robust Huber/White/sandwich standard error estimators. Multiple agencies rating the same country in a given year mean that in several years, the right-hand side data for that country in that year are identical. If uncorrected, this type of clustering could result in biased standard errors that could exaggerate statistical significance. An additional adjustment related to this clustering issue assumes independence between but not within unique country-year combinations.

on December 31 of each year. In most cases, this inconsistency is not problematic. 95 of the 108 election-year rating observations show no change from at least one month (and usually several months) before election day to December 31 of that same year. But 13 election-year ratings observed on December 31 had changed close to the election. Six changed in the month of the election; seven changed in the month after the election. These "late" rating changes were not randomly distributed: Eight of these observations came from Korea and Chile; all were for elections with right-wing incumbents. Rather than drop them from the sample, we retained them but include an additional control, *postELECchange*, that takes the value of 1 for these 13 observations, otherwise 0.

5. Results

Table 2 reports descriptive (Columns 1-2) and regression analysis results from ordered probit estimation (Columns 3-6) using some or all of the terms in Equation (8). Columns 3-6 of Table 2 provide progressively more complex model results, including a "base case" analysis of macroeconomic and related factors only (Column 3), one with both these controls and a simple election-year effect term (Column 4), and two full models including the previously described terms as well as various partisan orientation and electoral expectation terms (Columns 5-6). To test our six hypotheses, we rely primarily on results from the full model in Column 5. Full model results in Column 6, which include modifications for both "early" elections, and "late" rating changes, are displayed primarily for robustness purposes. Consistent with Equation (8), all four regressions also include country, year and agency indicator variable estimates omitted from Table 2 to simplify exposition of central results.

Overall, results from our analyses provide substantial support for our conceptual framework of agency decision-making based on partisan and opportunistic PBC considerations. To show how, we report the results from the simplest (Column 3) to most complex specifications (Columns 5-6).

TABLE 2

Ordered Probit Regression Results
Dependent Variable: Agency Long Term Foreign Currency Sovereign Risk Ratings, 1987–2000 [a]

Estimator → Coefficient ↓	(1) Mean	(2) Std. Dev.	(3) Ordered Probit	(4) Ordered Probit	(5) Ordered Probit	(6) [b] Ordered Probit
EXTBAL [ψ_1]	-0.5740	5.1653	-0.0771*** (0.0215)	-0.0825*** (0.0212)	-0.0818*** (0.0238)	-0.0870*** (0.0281)
EXTDEBT [ψ_2]	0.4097	0.1740	-8.5304*** (0.9689)	-8.6179*** (0.9941)	-9.1010*** (1.0082)	-8.4051*** (0.8277)
PC I [ψ_3]	4013.907	2604.7430	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0002 (0.0001)	-0.0001* (0.0001)
GDPG [ψ_4]	1.7606	3.4248	0.0307 (0.0202)	0.0292 (0.0196)	0.0269 (0.0190)	0.0411** (0.0174)
INFL [ψ_5]	77.0836	301.5471	-0.0007*** (0.0002)	-0.0007*** (0.0002)	-0.0006*** (0.0001)	-0.0005*** (0.0002)
FISC BAL [ψ_6]	-1.7667	2.8896	0.0107 (0.0356)	0.0062 (0.0420)	0.0024 (0.0416)	0.0030 (0.0458)
DEF [ψ_7]	0.5518	0.4978	-1.2880*** (0.2538)	-1.3404*** (0.2630)	-1.4120*** (0.2610)	-1.3877*** (0.2770)
ELEC [β_1]	0.2261	0.4187		-0.3520*** (0.1180)	-0.3506 (0.2427)	-0.2133 (0.1569)
RINC [β_2]	0.7157	0.4515			0.5354* (0.2978)	0.5212 (0.3587)
*RINC*ELEC* [β_3]					-0.1224 (0.1516)	-0.2184* (0.1271)
*ELEC*λD* [β_4]					0.2631 (0.1628)	0.3506** (0.1647)
*RINC*ELEC*λD* [β_5]					-0.0129 (0.2826)	-0.1273 (0.1191)
postELECchange [β_{10}]						-0.9879 (0.7551)
N	482	482	475	475	475	475
Pseudo R^2			0.3662	0.3697	0.3720	0.3765
$\beta_1 + \beta_4$: Left inc., right expected (λ^{hi})					-0.0876 (0.3381)	0.1373 (0.1886)
β_1: Left inc., close call (λ^{med})					-0.3506 (0.2427)	-0.2133 (0.1569)
$\beta_1 - \beta_4$: Left inc., left expected (λ^{lo})					-0.6137*** (0.2377)	-0.5638** (0.2607)
$\beta_1 + \beta_3 + \beta_4 + \beta_5$: Right inc., right expected (λ^{hi})					-0.2229 (0.1534)	-0.2084 (0.1648)
$\beta_1 + \beta_3$: Right inc., close call (λ^{med})					-0.4730*** (0.1491)	-0.5176** (0.2186)
$\beta_1 + \beta_3 - \beta_4 - \beta_5$: Right inc., left expected (λ^{lo})					-0.7232** (0.3411)	-0.6549*** (0.2539)

Standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%.

a. Countries in sample include: Argentina, Bolivia, Brazil, Bulgaria, Chile, Colombia, Ecuador, Indonesia, South Korea, Mexico, Paraguay, Peru, Philippines, Poland, Russia, South Africa, Tunisia, Uruguay, and Venezuela. 39 presidential elections covered by ratings from up to five NRSRO agencies are included in this sample from the 1987-2000 period. Not reported are estimates for country, year and agency dummies included in each specification. Includes robust standard errors with adjustments for ratings clustering on agencies. Results from re-estimation of "close call" as 5% and 10% margin of victory are consistent with results shown above. These additional results are available from the authors on request.

b. Dependent variable for elections held in first quarter of year *t* is agency rating published on December 31 of year *t*-1. Includes indicator variable (*postELECchange*) taking value 1 for agency ratings published on December 31 that were announced within a month before or after election, otherwise 0.

The base case results in Column 3 generally confirm previous research by Cantor and Packer (1996a,b), who demonstrated with cross-sectional data, and McNamara and Vaaler (2000) as well as Block and Vaaler (2003), who demonstrated with panel data that these seven macroeconomic and related variables closely approximate the rating algorithm commonly employed by the major agencies. Four of the seven terms are statistically significant at $p < 0.01$; among those four, all but the coefficient on external balance (*EXTBAL)* display the expected sign. In general, the base model's results are intuitively plausible. Agencies accord higher ratings to countries with smaller external debt ratios, lower inflation, and no recent history of default on sovereign bonds.

Column 4 expands on the base case by introducing the simple election-period term (*ELEC*) with virtually no impact on the previously included coefficient estimates. This estimation reproduces effectively Block and Vaaler's (2003) test of opportunistic business cycles. The coefficient is, as expected, significant and negative ($\hat{\beta}_1 = -0.3520$; $p < 0.01$), thus, confirming their previous finding that election years are associated with lower credit ratings.

Columns 5–6 present the full model results. Column 5's introduction of an indicator for the right-wing incumbency of a government in a given year (*RINC*) is positive ($\hat{\beta}_2 = 0.5354$; $p < 0.10$) but turns negative (though not significant at commonly acceptable levels) when interacted with the election year dummy (*RINC*ELECT*). The signs are robust to the modifications included in Column 6 though the negative interaction term is now significant ($\hat{\beta}_3 = -0.2184$; $p < 0.10$) while the positive individual right-wing incumbency term is not. These results are consistent with the assumption that right-wing incumbency is generally viewed positively by the inflation-conscious agencies; however, election years bring the possibility of right-wing ouster, which would explain the negative sign on the right-wing incumbency and election year interaction term.

Other results in Column 5 provide additional insight on election-year ratings, but with more specific application to PBC considerations analyzed in our conceptual framework. When election-year rating effects are partitioned based on different agency expectations of right-wing victory on election-day

(λD), we derive coefficient estimates sufficient to test our six hypotheses. The slope coefficients for each of the six different cells in Table 1 appear at the bottom of Table 2.

Recall first that, based on these Table 1 cells, we predicted in Hypothesis 1 that there would be no significant difference from zero in the slopes for left-wing incumbents no matter the agency electoral expectation. Our results suggest partial support: At two of the three electoral expectation levels (λ^{hi} and λ^{med}) the slope coefficient slopes are not significantly different from zero; but, interestingly, when agency electoral expectations are that the left-wing incumbents will be re-elected (λ^{lo}), the resulting slope is significantly negative rather than zero. Holding other terms in Equation (8) at their mean levels, ratings fall by approximately one ordinal rating level for developing countries with left-wing incumbents likely to be retained by voters in election years.

This apparent inconsistency might be explained first by the approximate measurement of agency electoral expectations. Rather than complete certainty ($\lambda = 0$), implying a clear "no change" (0,0) decision, we are measuring a range of likely (but not necessarily certain) re-election expectations. Thus, practically, the agency's decision rule in the context of likely re-election includes both partisan PBC considerations tending toward upgrade (+) and opportunistic considerations tending toward downgrade (-). Given this, one interpretation suggests that partisan and opportunistic tendencies generally counteract one another in scenarios where left-wing incumbents face a close call election or likely ouster; in cases of re-election, however, opportunistic PBC considerations may predominate, thereby inclining the agency to downgrade.

Hypotheses 2 and 3 rely on the reinforcing (not counteracting) impact of partisan and opportunistic PBC considerations for right-wing incumbents at different electoral expectation levels. Consistent with Hypothesis 2, we find in Column 5 that agency expectations of right-wing re-election (λ^{hi}) are associated with a ratings change slope not significantly different from zero, but that agency expectations of either a close call or likely ouster by left-wing challenger lead to significantly negative ratings change slopes: In a close call election (λ^{hi}), the impact on election-period ratings for right-wing incumbents is -0.4730 ($p < 0.01$); in an election where agencies expect the right-wing incumbent to lose

(λ^{lo}), the ratings change slope is -0.7232 ($p < 0.01$). As Column 6 demonstrates, these results are robust to modifications for early elections and late rating changes.

The sign and size of these estimates also support Hypothesis 3, which predicted an orderly hierarchy of ratings changes with right-wing incumbents: Likely re-election (λ^{hi}) would yield the least negative change; close call election expectations would be second (λ^{med}); and the likely ouster of a right-wing incumbent would result in the greatest negative ratings change (λ^{lo}). Interestingly, however, these three different slope coefficients are not different from each other at commonly acceptable levels of statistical significance, either in Column 5 or in the modified estimation in Column 6. Thus, we have the interesting scenario where signs and the absolute coefficient values are aligned consistently with Hypothesis 3. The practical effects of moving from the highest (λ^{hi}) to the lowest (λ^{lo}) point on the hierarchy indicates additional support, though a formal statistical test of differences between these points does not provide additional confirmation.

Hypotheses 4-6 test differences in the absolute magnitude of ratings change effects across partisan orientations at fixed electoral expectation levels. We find statistically significant support ($p < 0.10$) for Hypothesis 4 predicting that the absolute magnitude of ratings changes for right-wing incumbents likely to ousted from office (λ^{lo}) (0.7232) will be greater than for left-wing incumbents expected to be turned out (λ^{hi}) (0.0876). This result is robust to modified re-estimation in Column 6, and provides additional confirmation of our assumption of reinforcing (for right-wing incumbents) but counteracting (for left-wing incumbents) partisan and opportunistic PBC effects on ratings changes.

Holding all other effects on ratings at their mean values, the results in Column 6 (our fully modified model) also suggest that agencies will downgrade by one discrete rating level countries where a right-wing incumbent faces election with a high likelihood of losing to a left-wing challenger (such as recently occurred in Brazil). Given the mean rating in our sample (5.5 ≅ BB+), even a downgrade of one notch could be sufficient to prevent a country with an otherwise improving risk profile (based on, say, improved macroeconomic indicators) from moving out of "junk" and into the investment grade ranks (7 = BBB or greater) so important for placing debt with institutional investors on reasonable terms. In

contrast, the model predicts no discrete change in rating when a left-wing incumbent faces likely defeat by a right-wing challenger. Again, the upgrade tendency such a change might prompt given partisan PBC considerations, could be counteracted by a downgrade tendency due to the opportunistic PBC fear that the incumbent "against the wall" will engage in a spending spree to avoid defeat. The overall result is no significant change in election-period rating.

Results for Hypotheses 5 and 6 differ from those for Hypothesis 4 described immediately above. Recall that, in the case of likely re-election of right- (λ^{hi}) and left-wing (λ^{lo}) incumbents we predict in Hypothesis 5 rough equivalence and no significant differences from zero. Looking at Column 5, we do, in fact, find rough equivalence (*i.e.*, no statistically significant difference) in the absolute magnitude of ratings changes for right-wing (0.2229) versus left-wing (0.6137) incumbents; yet, only right-wing (not left-wing) ratings changes here are insignificant relative to zero. Similarly, only partial support is indicated for Hypothesis 6, which predicts greater absolute magnitude of ratings change for right-wing versus left-wing incumbents facing close call elections (λ^{med}). Indeed, the absolute coefficient value for right-wing incumbent ratings change slope (0.4730) is greater than for left-wing incumbents (0.3506), but the difference between these two is not significant at commonly acceptable levels. Taken together, these results suggest that cross-partisan differences in election-period ratings become significant only in cases where incumbents have their "backs against the wall." The reinforcing (for right-wing incumbents) and counteracting (for left-wing incumbents) effects of partisan and opportunistic PBC considerations are less pronounced between partisans as the likelihood of re-election improves.

6. Discussion and Conclusion

Formal theories of political business cycles are typically categorized as being either partisan or opportunistic based on their assumptions regarding the characteristics of incumbents and voters. Both branches of theory have found only mixed empirical support, with the strongest evidence coming from applications of opportunistic theories to developing countries. The present study takes as given both types of PBC theories and addresses their joint implications for the behavior of private, foreign-based

financial actors whose interests may be at stake in developing countries. In particular, we develop an analytical framework that incorporates both partisan and opportunistic considerations into the decision rule that agencies follow as they assess election-related risks to sovereign credit in developing countries.

Specifically, we posit that agencies act as if they are aware of the potential for incumbent politicians to initiate and sustain different (and more or less favorable) economic policies based on partisan preferences. We find firm support for the broad proposition that risk assessments by agencies are conditioned on the partisan orientation of the incumbent government, as well as by expectations of the election's outcome. These findings build on and incorporate previous findings by Block and Vaaler (2003) that agencies also act out of concern for pre-election opportunistic behavior by incumbents. Holding constant a set of macroeconomic control variables thought to explain sovereign ratings, we find a decline (increase) of approximately one agency rating level due to unfavorable expected changes in partisan orientation. We also find evidence that the extent of these rating change tendencies are greater for right- versus left-wing incumbents, a consequence of the reinforcing rather than counteracting effects of partisan and opportunistic PBC effects in the case of right-wing incumbents. These results are robust to the inclusion of year, country, and agency effects, as well as to changes in the sample and specification used.

Our findings raise several broader questions about electoral partisanship and opportunism, and the apparent price they may entail for developing countries. Sovereign ratings are increasingly important to developing countries seeking to finance growth by attracting mobile investment capital in a global economy. Downgrades portend substantial increases in the cost of capital, and perhaps, other negative reactions such as reduced capital inflows, and in extreme cases, even capital outflows (see, *e.g.*, Larraín *et al.* 1997). If incumbent political leaders in developing countries are prone to creating partisan business cycles—as a growing literature suggests they are—and if outside observers such as agencies are aware of that potential, then partisanship might have effects on the development of countries more than had been previously assumed. Our findings suggest that partisan aspects of economic programs in developing

countries may lead to more negative agency risk assessments, which lenders and investors will use to demand higher returns on capital they may send there in the short- to medium-term.

These costs have been under-emphasized if not completely ignored in the PBC literature. In an era of financial globalization, such costs may be substantial, particularly as competitive elections involving candidates with distinct partisan orientations and policies become increasingly frequent events among nascent democracies in the developing world. For example, agency concerns and rating downgrades made in anticipation of a partisan shift from right- to left-wing in Brazil's presidency during the 2002 election period may contribute to greater overall investor anxiety, increased spreads on sovereign debt instruments, even lower bank-lending limits. These developments could, in turn, frustrate the implementation of economic and social policies championed by the incoming president and his party.

This research invites further exploration of related PBC issues. As our conjecture above suggests, partisan concerns of other relevant third parties and their perceptions of changed risk promise additional interesting insight. Goldsmith's (1994) findings seem validated in this study with respect to agencies, a key player in international capital markets. Other key individuals may be similarly affected by elections, including banks making loans, individuals and institutions trading bonds or managing investment portfolios, and firms engaged in foreign direct investment in developing countries. Deeper understanding of the composition of such fluctuations before and after elections will also contribute to future PBC-related research.

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