Policy Makers’ Preferences, Party Ideology and the Political Business Cycle

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Abstract

We generate data on the relative preferences of policy makers for inflation and output stability and re-examine how policy makers and political parties behave for 24 countries by using this new approach. This behavior is essential in both the partisan cycle models and the opportunistic political cycle analysis. Our evidence suggests that right-wing parties exhibit a higher relative preference towards stabilizing inflation than left-wing parties. We obtain mixed results on the opportunistic behavior of incumbent parties. Finally, when we analyze the behavior of left and right ideologies separately, we find overwhelming support for party resemblance in the electoral year, and strong evidence of opportunistic conduct by right-wing parties.

JEL classification: E32, E52, E61

Keywords: revealed preferences, partisan view, opportunistic view, political cycle

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1 Introduction

It is generally accepted that partisan interests and the beliefs of policy makers subject to a democratic electoral process are important determinants of actual macroeconomic policies. More disagreement exists, however, about the nature of the true behavior of policy makers. In this respect, most of the attention within the political business cycles literature over the last 30 years has been captured by the notions of “opportunistic” and “partisan” cycles (see Drazen (2000a) for a literature review).

Initially formalized by Nordhaus (1975), “opportunistic” cycles are the result of pre-electoral manipulative policies. Given an electoral cycle, “opportunistic” policy makers choose macroeconomic policies likely to generate lower unemployment rates and higher income levels right before election time with the intention of gaining the voter’s favor. The cycle is then completed when both inflationary pressures and contractionary tendencies appear after the elections.

As pointed out by Hibbs (1977) and later by Alesina (1987), political business cycles can also arise from ideological differences across political parties that alternate power.1 One party, traditionally the “left-wing” party, appeals more to a labor base and promotes expansionary policies that minimize the output gap at the cost of eventual inflationary pressures. The other party, in contrast, appeals more to capital owners and is more concerned with keeping inflation in check at the cost of some unemployment. The cycle is generated as the two parties alternate power and the opposing preferences translate into opposing policies.

Whether opportunistic or partisan behavior actually takes place is an empirical question yet to be resolved. The most common test of both theories is to run an econometric autoregression of a macroeconomic variable (such as unemployment, output growth or inflation) on itself, other economic variables and a political dummy (for electoral years or the type

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1 The specific adjustments are different in Alesina’s and Hibbs’ models as their assumptions about the rationality of the economic agents vary.
of party in power) and then look for a link between the political events and the dependent macroeconomic variable.

The results of these empirical tests change noticeably with the measure of economic activity that is chosen as the dependent variable. Studies that use GDP growth measures as dependent variables generally support partisan cycles theories but do not find evidence of opportunism (see for example Alesina et al. (1992, 1997), Paldman (1979) and Beck (1987)). In contrast, studies that use inflation as the dependent variable tend to reject partisan cycles and favor claims of opportunistic behavior (see for example Faust and Irons (1999), Alesina et al. (1997) and Sheffrin (1989)).

It is not surprising that the results of these tests change as the choice of macroeconomic variable studied changes. Figure 1 illustrates this point graphically by plotting time series data on inflation, output growth, and electoral dates for a sample of countries. As can be seen for all these countries, inflation and output growth sometimes move in opposite directions. Thus, the analysis of a sustained period of economic growth and low inflation could naturally lead to different conclusions regarding the opportunistic behavior of the government.

This paper re-examines how policy makers and political parties behave by using a new approach. Instead of looking at macroeconomic variables and their relation to political variables, this paper focuses on measuring policy makers’ revealed preferences towards stabilizing inflation and output directly. We argue that this method has several advantages over the traditional approaches: First, by generating a one-dimensional measure for preferences we eliminate the complications associated with choosing among several macroeconomic variables as the dependent variables in our study.

Second, it is possible that some parties are more efficient than others in achieving policy targets or that some parties have a different perception of the output-inflation trade off.

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in the economy. In this respect, authors like Cecchetti et al. (2004) have argued that policy makers become more efficient over time. Given that most of these differences are unobservable, studies that compare the behavior of macroeconomic variables across political parties with different ideologies or across electoral cycles are potentially biased. Our study of preferences, in contrast, overcomes this problem since the estimated preference parameters are independent of policy efficiency considerations.

Finally, our method directly deals with some of the endogeneity concerns of past studies. If the political dummy variables included in typical econometric regressions are determined by omitted variables that also affect macroeconomic outcomes, or if the timing of the elections is chosen strategically by the incumbent when macroeconomic conditions are good, then the results obtained in such regressions are likely to be biased (see Faust and Irons (1999) for a more detailed explanation).

We isolate this bias by comparing our results for the total sample with the results obtained from a subsample consisting only of electoral cycles that are predetermined by either law or custom. Furthermore, as shown in the next section, our measure of political preferences is independent of the level of macroeconomic variables and omitted variables that create temporary shocks to the economy, thus avoiding any possible reverse causality problems.

Using a standard loss function and a series of macroeconomic variables, we estimate policy makers’ preferences towards inflation and output stability for a sample of 24 countries during the period 1974-2000. We then combine these estimations with political records about electoral dates in order to answer three basic questions: 1. How do preferences towards stabilizing the main macroeconomic variables (inflation and output) change along the electoral cycle; 2. How do these preferences change as the ideology of the party in power changes; and 3. Does the incumbent party try to resemble the behavior of a rival party as an election year approaches.

The results of our estimations show that political parties with a leftist ideology have
a stronger preference towards stabilizing output than right-wing political parties for the majority of countries studied; that is, there exists an ideological gap between parties of the kind proposed by Alesina and Hibbs. At the same time, our results also show that in some countries the incumbent’s party acts opportunistically either by stimulating the economy before the elections or by making their economic policies similar to those of opposing parties. The presence of party resemblance strategies has been neglected in the past, but it emerges as an important form of opportunism in our results.

The remainder of the paper is organized as follows: Section 2 explains the method we employ to estimate the relative weight that authorities place on inflation and output gap stability. Section 3 discusses our main findings regarding the behavior of incumbent political parties and Section 4 presents our conclusions and possible directions for future research.

2 Measuring Policy Maker’s Preferences

2.1 Deriving the preference parameter

In order to obtain our measures of policy makers’ preferences and study its behavior over the political business cycle, we begin by assuming that the primary concern of the incumbent government is to achieve stabilization of the economy through the reduction in the variability of inflation and the output gap. In doing this we abstract from other policy goals, such as stabilizing exchange rates and interest rates, as well as achieving more equity in income distribution, for we consider that these serve rather as intermediate goals towards achieving domestic macroeconomic performance, measured by price and output stability.

Also, at this point we declare ourselves agnostic as to which policy instrument the authorities will use (e.g. monetary policy, fiscal policy, exchange rate policy, or any other demand-side policy) and we simply represent the control variable by \( r \), to which from here on we will refer simply as the “interest rate”. We do not include in our analysis policies that may have effects on the supply side of the economy, since most of them are associated with
longer-term goals that go beyond the scope of our study.

It is also important to note that many of the countries included in our sample have independent central banks whose primary objective is short-run economic stabilization. Therefore, if the monetary authorities in these countries, as we should expect, have relatively stable preferences, any observed variation in policy maker’s behavior would capture the influence of other policies that are under the control of the incumbent party.

Consistent with most contemporary analyses of government policy and the theory of political business cycles,³ we summarize the policy maker’s objective through the following standard quadratic loss function:⁴

\[ L = E_t[\lambda(\pi_t - \pi_T)^2 + (1 - \lambda)(y_t - y_T^2)] ; 0 \leq \lambda \leq 1 , \]  

where \( E_t \) is the expectation operator at time \( t \); \( \pi \) is inflation; \( y \) is (log) aggregate output; \( \pi_T \) and \( y_T \) are the target levels of inflation and output;⁵ and \( \lambda \) is the relative weight given to squared deviations of inflation and output from their desired levels.

Minimization of the loss function requires knowledge of the determinants of deviations of inflation and output from their respective targets. We assume that two random shocks push \( y \) and \( \pi \) away from \( y_T \) and \( \pi_T \). First, an aggregate demand shock (\( d \)) moves inflation and output in the same direction, while an aggregate supply shock (\( s \)) moves inflation and output in opposite directions.⁶ Since policy is only capable of moving inflation and output in the same direction its effect is analogous to that of an aggregate demand shock.

We define aggregate demand (AD) as the negative relationship between \((y - y^T)\) and

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³See Drazen (2000b), Chapter 7.
⁴Due to the assumption of a quadratic loss function, the analysis we undertake restricts expansionary and contractionary policy preferences to be symmetric, which may not always be the case (e.g., policy maker’s may be more concerned with a fall in output than an equally proportional increase in output). Extending the analysis to allow for this asymmetry is an interesting exercise, which goes beyond the scope of the present study.
⁵Note that the target levels for inflation and output can be a function of time; we come back to this issue later in the paper.
⁶In the formal representation that follows, we assume that a positive demand shock increases both inflation and output, whereas a positive supply shock lowers inflation and rises the level of output.
$(\pi - \pi^T)$ that is shifted by the demand shock and the deviations of the policy instrument from its equilibrium value $(\tilde{r})$:  

$$y - y^T = -\omega(\pi - \pi^T) - \phi(\tilde{r} - d) ; \omega > 0 , \phi > 0 ,$$  

where $\omega$ is the inverse of the slope of the aggregate demand function and $-\phi$ is the response of output to changes in the policy instrument.  

Analogously, aggregate supply (AS) is the positive relationship between inflation deviations and output deviations that is shifted by the supply shock:

$$\pi - \pi^T = \gamma(y - y^T) - s ; \gamma > 0 ,$$  

where $\gamma$ is the slope of the aggregate supply function. The aggregate disturbances $d$ and $s$ have been normalized to yield the simple representation of the AD-AS model.

Combining (2) and (3) we obtain expressions for $(y - y^T)$ and $(\pi - \pi^T)$ as a function of the structural parameters, the aggregate shocks and the policy instrument:

$$y - y^T = -\phi(\tilde{r} - d) + \omega s (1 + \omega \gamma) ,$$  

$$\pi - \pi^T = -\phi \gamma(\tilde{r} - d) - s (1 + \omega \gamma) .$$

Minimizing the quadratic loss function, subject to the constraints imposed by the structure of the economy, yields a simple linear policy rule of the form:

$$\tilde{r} = ad + bs ,$$

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7 The equilibrium value of the interest rate is defined as the value needed such that output would equal its potential (or target) level.

8 Romer (2000) provides a good description on how to derive an analogous version of this model. See also Krause (2003a) for a theoretical derivation using a rational expectations optimization process in the presence of imperfect information.

9 Krause (2003b) shows how the AD-AS model and the one-period loss function yields the exact same reduced form representations for optimal inflation and output as the forward-looking New Keynesian model developed by Roberts (1995) and employed by Clarida, Galí and Gertler (1999) and others, whenever supply shocks are not autocorrelated. However, once we perform the estimation of the parameters in Section 2.2, we relax this assumption and employ an AR(2) process for both supply and demand disturbances.
where the expression for the coefficient \( b \) (which we later use for computing the preference parameter \( \lambda \)) is given by:

\[
b = \frac{-\lambda \gamma + (1 - \lambda) \omega}{\phi [\lambda \gamma^2 + (1 - \lambda)]}.
\] (7)

Equations (4) and (5), together with equation (7), provide us a useful way to verify the response to supply shocks as a function of the preferences. If policy maker only cares about stabilizing output \((\lambda = 0)\), the reaction to a positive supply shock (which raises the output gap), is to increase the interest rate by the factor of \( \frac{\omega}{\phi} \) (in order to reduce the output gap).

Analogously, for a strict inflation targeter \((\lambda = 1)\), the reaction to an inflation-reducing positive supply shock should be to lower the interest rate by a factor of \( \frac{1}{\phi \gamma} \), in order to stabilize inflation around its target.

We are interested in the parameters of the observed or actual policy rule pursued by authorities, for this will allow us to estimate their actual preferences, regardless of whether or not they are behaving optimally. The procedure to obtain the relevant coefficients is as follows: Starting from the reduced form representation of the economy, given by equations (4) and (5), we substitute the linear policy rule of equation (6). By construction, we can define the aggregate supply and demand shocks in such a way that they will be uncorrelated \((\sigma_{d,s} = 0)\). Hence, the observed variances of output and inflation around their target levels can be given by the following expressions:

\[
\text{Var}(y) \equiv E(y_t - y^*_t)^2 = (1 + \omega \gamma)^{-2}[\phi^2(a - 1)^2 \sigma^2_d + \omega^2 b^2 \sigma^2_s],
\] (8)

\[
\text{Var}(\pi) \equiv E(\pi_t - \pi^*_t)^2 = (1 + \omega \gamma)^{-2}[\gamma^2 \phi^2(a - 1)^2 \sigma^2_d + (1 + \gamma \phi b^2) \sigma^2_s].
\] (9)

Combining equations (8) and (9) we can solve for the parameter \( b \) of the actual policy rule:

\[
b = \frac{(1 + \omega \gamma)(\sigma^2_d - \gamma^2 \sigma^2_y) - (1 - \omega \gamma) \sigma^2_s}{2 \gamma \phi \sigma^2_s}.
\] (10)

Merging equations (7) and (10) we can thusly derive the coefficient of preference for inflation stability, \( \lambda \), as a function of the structural parameters:

\[
\lambda = \frac{(\omega - \phi b)}{(\omega - \phi b) + \gamma(1 + \gamma \phi b)}.
\] (11)
Note that since λ is a function of the structural parameters of the economy and the reaction of policy to supply shocks (parameter b), policy maker’s preferences will not be a function of the levels of inflation and output, but only of the relationship between these variables given by the structural model. This allows us to overcome potential endogeneity problems associated with reverse causality and omitted variables that have an impact on political and macroeconomic variables simultaneously.

Many authors before us have undertaken the task of estimating policy intentions, mostly for analyzing the behavior of monetary policy.10 The main advantage of our procedure, as we show above, is that we do not need to assume optimal policy in order to estimate these preferences parameters. Still, the method we propose is indirect by nature, and some could argue that the best approach is to directly survey policy makers in order to find out which are the relative importance they place on certain key macroeconomic variables. This direct method, however, has quite a few shortcomings:

- The decision-making process may not be centralized, since several institutions and individuals may be responsible for policy, so even if we could survey all of them, How do we achieve a single measure for preferences?

- Some policy makers may not be willing to publicly disclose their intentions, if they believe that this type of information would adversely affect the outcome and effectiveness of policy decision.

- Finally, even if we find a centralized entity in charge of policy that is completely transparent, situations out of the policy maker’s control could affect his/her relative preference towards a particular objective (for example, having to intervene in order to bring the economy out of an unexpectedly sharp recession).

For all of the above reasons we feel that looking at policy makers’ revealed preferences

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through estimating a model for the economies of interest is more practical and easier to implement. Furthermore, since our analysis will be only from a historical perspective without, at this point, making any policy recommendations for future action, our proposed method is not subject to the Lucas (1976) critique. We indicate how we estimate the structural parameters needed to obtain our measures of $\lambda$ next.

### 2.2 Estimating the structural parameters

Let us revisit the stylized model in equations (2) and (3):

\[
\tilde{y}_t = -\omega \tilde{\pi}_t - \phi (\tilde{r}_t - d_t) ,
\]

\[
\tilde{\pi}_t = \gamma \tilde{y}_t - s_t ,
\]

where we have defined $\tilde{y} = y - y^T$ and $\tilde{\pi} = \pi - \pi^T$ for notational simplicity. We measure inflation by using the annualized change in the Consumer Price Index (CPI), while our measure of output is given the log of industrial production. For estimation purposes we assume that the target level for inflation is given by its linear trend, whereas the target for (log) output is obtained by applying the Hodrick-Prescott filter to the data. As a robustness check for the above choices, we also considered alternative targets for inflation (average inflation) and output (log-linear trend), without any major differences in the outcomes.\(^{11}\)

As such, estimating the system only allows us to identify the parameter $\gamma$. Hence, in order to achieve the identification of $\omega$ and $\phi$ we make the operational assumption that the aggregate supply shock can be decomposed into a domestic and a foreign component, namely:

\[
s_t = h_t - \psi f_t ,
\]

where $h$ represents the domestic (home) component of the shock, while $f$ represents the

\(^{11}\)The only exception is the case of Portugal, for which a linear trend for inflation yields substantially higher values for $\lambda$ during the mid-to-late 1980s, as compared to the estimates we obtain when using average inflation as the policy maker’s goal. Nevertheless, since this affects the level of $\lambda$ across all periods and not so much the direction of its change, we have opted to ignore this issue.
foreign disturbance. The underlying assumption is that \( f \) affects domestic prices directly, while its impact on output arises indirectly through its effect on inflation. To be consistent with this description, we will use external price inflation as a proxy for \( f \) in the estimation, as we detail below.

The stylized model in equations (2')-(3') can be reformulated to take into account the dynamic behavior of the economy, a feature present in the data. To accomplish this, we assume that the demand disturbance and the domestic component of the supply disturbance have persistent effects on the economy and model \( d_t \) and \( h_t \) as AR(2) processes; i.e.:

\[
d_t = \varphi_1 d_{t-1} + \varphi_2 d_{t-2} + k_{d,t} ; \quad E_t(k_{d,t}) = 0 ,
\]

\[
h_t = \chi_1 h_{t-1} + \chi_2 h_{t-2} + k_{h,t} ; \quad E_t(k_{h,t}) = 0 .
\]

Using equations (2'), (3') and (12) we can represent the aggregate shocks as:

\[
d_t = \frac{\tilde{y}_t + \omega \tilde{\pi}_t}{\phi} + \tilde{r}_t ,
\]

\[
h_t = s_t - \psi f_t = \gamma \tilde{y}_t - \tilde{\pi}_t - \psi f_t .
\]

Substituting (15) into the right-hand side of (13) and the solution into (2') yields:

\[
\tilde{y}_t = -\omega \tilde{\pi}_t - \phi(\tilde{r}_t + \varphi_1 \tilde{r}_{t-1} + \varphi_2 \tilde{r}_{t-2}) + \varphi_1 \tilde{y}_{t-1} + \varphi_2 \tilde{y}_{t-2} + \omega \varphi_1 \tilde{\pi}_{t-1} + \omega \varphi_2 \tilde{\pi}_{t-2} + \phi k_{d,t} .
\]

Analogously, substituting (16) into the right-hand side of (14) and the solution into (3') results in the following:

\[
\tilde{\pi}_t = \gamma \tilde{y}_t + \psi(f_t + \chi_1 f_{t-1} + \chi_2 f_{t-2}) - \gamma \chi_1 \tilde{y}_{t-1} - \gamma \chi_2 \tilde{y}_{t-2} + \chi_1 \tilde{\pi}_{t-1} + \chi_2 \tilde{\pi}_{t-2} - k_{h,t} .
\]

The system of equations (17) and (18) represents a dynamic aggregate demand - aggregate supply model. To make its estimation operational, we proxy the term \( \tilde{r}_t + \varphi_1 \tilde{r}_{t-1} + \varphi_2 \tilde{r}_{t-2} \) with

\[12\] The assumption about the autoregressive structure of the shocks is only crucial in terms of determining the order of the Vector Autoregression in equations (19) and (20) below. Specifically, for the current specification of the AD-AS model, an AR(n) process for the disturbances will result in the estimation of a n-order VAR.
the lagged demeaned ex-post real interest rate \((i_{t-1} - \pi_{t-1})\), where \(i\) is the short-term nominal interest rate. It is important to note that, while it is true that we are using a mainly monetary variable - namely the short-term real interest rate - as the policy maker’s instrument, we are not making any claims as to how this interest rate is determined. Therefore, fiscal and/or exchange rate policy could indeed play a role into determining the level of the instrument, and the extent of that role vis-a-vis the relative importance of monetary policy is an empirical issue and, therefore, country specific.

Finally, we proxy the expression \(f_t + \chi_1 f_{t-1} + \chi_2 f_{t-2}\) with one lag of demeaned external price inflation \((\varepsilon_{t-1} + \pi^x_{t-1})\), where \(e\) is nominal exchange rate devaluation and \(\pi^x\) is foreign inflation. Taking this into account, we estimate the dynamic behavior of output and inflation through the following system:

\[
\begin{align*}
\tilde{y}_t &= -\omega \tilde{\pi}_t - \phi (i_{t-1} - \pi_{t-1}) + \sum_{l=1}^{2} \alpha_{1l} \tilde{y}_{t-l} + \sum_{l=1}^{2} \alpha_{1(l+2)} \tilde{\pi}_{t-l} + u_{yt}, \\
\tilde{\pi}_t &= \gamma \tilde{y}_t + \psi (\varepsilon_{t-1} + \pi^x_{t-1}) + \sum_{l=1}^{2} \alpha_{2l} \tilde{y}_{t-l} + \sum_{l=1}^{2} \alpha_{2(l+2)} \tilde{\pi}_{t-l} + u_{\pi t},
\end{align*}
\]

There are two crucial assumptions for estimating the system. First, in the aggregate demand equation, the (lagged) real interest rate has only a direct effect on output, and its outcome on prices arises through the effect on output. Second, (lagged) external price inflation only affects domestic inflation contemporaneously, with an indirect effect on output. While the first identification assumption is often found in the literature (see, for example, Rudebusch and Svensson (1999) and the references in Taylor (2000)), the use of the second one can be justified if, as mentioned above, a change in external prices has its direct effect on domestic inflation immediately and only causes a change in domestic output after a period.\(^{13}\) It is important to note that we are neither claiming that external price inflation does not affect output, nor that a change in the real interest rate has no effect on inflation. Instead, our assumptions are that the interest rate affects first production and then prices, and that

\(^{13}\)This would clearly be the case if the source of the external price change were an oil shock or a modification in the terms of trade that the economy faces.
external inflation affects domestic prices first and the adjustment in output takes place later, both of which are consistent with recent empirical findings.

Since the real interest rate only enters the dynamic aggregate demand equation (19) and the external price inflation only enters the dynamic aggregate supply equation (20) we can identify the parameters \( \omega, \gamma \) and \( \phi \) through the estimation of the following vector autoregression:\(^{14}\)

\[
\tilde{y}_t = \beta_{1r}(\tilde{u}_{t-1} - \tilde{\pi}_{t-1}) + \beta_{1f}(\tilde{e}_{t-1} + \tilde{\pi}^x_{t-1}) + \sum_{l=1}^{2} \beta_{1l}\tilde{y}_{t-l} + \sum_{l=1}^{2} \beta_{1(l+2)}\tilde{\pi}_{t-l} + \epsilon_{yt},
\]

\[
\tilde{\pi}_t = \beta_{2r}(\tilde{u}_{t-1} - \tilde{\pi}_{t-1}) + \beta_{2f}(\tilde{e}_{t-1} + \tilde{\pi}^x_{t-1}) + \sum_{l=1}^{2} \beta_{2l}\tilde{y}_{t-l} + \sum_{l=1}^{2} \beta_{2(l+2)}\tilde{\pi}_{t-l} + \epsilon_{\pi t}.
\]

It is straightforward to show that the estimates for \( \omega, \gamma \) and \( \phi \) can be obtained from the VAR estimation as follows:

\[
\hat{\omega} = -\frac{\beta_{1f}}{\beta_{2f}},
\]

\[
\hat{\gamma} = \frac{\beta_{2r}}{\beta_{1r}},
\]

\[
\hat{\phi} = -\beta_{1r}(1 + \hat{\omega})\hat{\gamma}.
\]

Since the preference measure is a simple function of the structural parameters, we simply compute it directly from the estimates, i.e.:\(^{11'}\)

\[
\lambda = \frac{(\hat{\omega} - \hat{\phi}\hat{b})}{(\hat{\omega} - \hat{\phi}\hat{b}) + \hat{\gamma}(1 + \hat{\gamma}\hat{\phi}\hat{b})}.
\]

where the estimate for \( \hat{b} \) comes from equation (10).

The data set used for the estimation was obtained from the 2002 IMF Internal Financial Statistics and from other country specific sources as described in the Data Appendix. We use rolling regressions of 20 quarters each to obtain quarterly results for \( \lambda \) for the 24 countries.

\(^{14}\)The VAR specification is similar to the one proposed by Mojon and Peersman (2001) for measuring the effects of monetary policy in countries of the Euro Area. The most important differences are that we do not include US real GDP and nominal interest rate as controls and that we estimate the same basic model for all countries.
in the sample; country specific data availability determined the maximum span of each time series for $\lambda$. To avoid any problems of seasonality in the estimate of policy makers’ revealed preferences, and given that the data we employ for studying the political cycle is available in annual frequency, we compute a yearly estimate for $\lambda$ by taking a simple 4-quarter average from the time series. We turn to our main findings in the next section.

3 Results: Patterns of Political Behavior

We now present the analysis of policy maker’s preferences as summarized by the parameter $\lambda$ for our sample of countries. In particular, we examine the following three questions:

1- How do preferences towards the main macroeconomic variables (inflation and output stability) change along the electoral cycle?

2- How do these preferences change as the ideology of the party in power changes?

3- Does the incumbent party try to resemble the behavior of a rival party as an election year approaches?

The analysis spans the period 1974-2000 for most countries; the most notable exceptions are the European Monetary Union countries, for which we do not analyze the years after their adoption of the Euro, and some developing economies for which some data did not become available on a quarterly frequency until the late 1970s - early 1980s.

We attempted to incorporate as many countries as possible in trying to answer the three questions above. The sample size, however, was restricted by the nature of the inquiries. The study of party ideologies, on the one hand, requires the presence of at least two ideologies that effectively compete for power - a rare characteristic in many countries. The study of preferences along the electoral cycle, on the other hand, is complicated by unstable electoral cycles, military occupations and changes in the electoral and/or political system.

Information of political parties and electoral dates was obtained mainly from the Database on Political Institutions (DPI) in Beck et al (2001), which contains a sizeable wealth of
information, and also partly completed through direct inquiries to individual government sources. Throughout the analysis a year is considered to be an electoral year if democratic elections took place during or after March of that year. Although rare, years in which the electoral process takes place either in January or February are unlikely to reflect policy changes related exclusively to the elections on that same year, since for most part of it the newly elected government will be in power.

As pointed out by Ginsburgh and Michel (1983) data points for years where the electoral cycle was interrupted or extended are likely to misrepresent any pattern of political behavior, as the policy makers might not be capable of predicting any surprise elections or surprise extensions of their tenure. Thus, as a robustness check, we also constructed a subsample of observations from years within electoral cycles of normal length, where a normal length of the electoral cycle (“normal” cycle) is defined by the historical mode.

It must also be noted that using normal cycles alone mitigates the endogeneity problems that arise from the possibility that the timing of the elections is correlated with the prevailing level of relevant macroeconomic variables (for instance, whenever the incumbent chooses to call for elections when macroeconomic conditions are good, or the opposing party does so when economic conditions are bad). By using normal cycles, we deal only with elections that are pre-determined either by law or by custom. A similar argument is used also by Shi and Svensson (2002).

Whenever appropriate, we will report the results for both the actual cycles (entire sample) and the “normal” cycles subsample. The latter becomes slightly smaller as countries such as France, Spain and Denmark, which have no historical mode for their electoral cycles, were excluded.
3.1 Evidence on opportunistic behavior

With respect to the relationship between policy preferences and the electoral cycle, we start by focusing on the possibility of opportunistic behavior. That is, we look for evidence that preferences for economic policy become more expansionary as the election day approaches, regardless of the ideology of the party in power or the number of political parties that effectively alternate power.

In order to study the patterns of policy preferences throughout the electoral cycle we classified the values of the relative preference for inflation stability ($\lambda$) into groups according to their position in the electoral cycle. That is, for each country we formed a group for electoral years only, another group for the pre-electoral years, other groups for the years before that and a final group for the years after a previous election. The average $\lambda$ within each group was then calculated and used to characterize the behavior of policy makers’ preferences throughout the cycle.

The policy makers’ behavior was classified as “opportunistic” or “not-opportunistic” for all countries where data was available as presented in Table 1, where additional information about the individual political systems is provided. Using a slightly different definition than Nordhaus’ (1975), we classify revealed preferences as opportunistic according to the following two criteria:

**Cycle**  
**Opportunistic Criterion 1**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Opportunistic Criterion 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-year</td>
<td>Electoral year’s average value of $\lambda$ is lower than for both pre-electoral years</td>
</tr>
<tr>
<td>4-year</td>
<td>Average value of $\lambda$ is lower for last two years of the cycle than for first two years and the electoral year’s value of $\lambda$ is lower than for the pre-electoral year</td>
</tr>
<tr>
<td>5-year</td>
<td>Average value of $\lambda$ is lower for last two years of the cycle than for first three years and the electoral year’s value of $\lambda$ is lower than all of the three first years</td>
</tr>
<tr>
<td>6-year</td>
<td>Average value of $\lambda$ is lower for last three years of the cycle than for first three years and the electoral year’s value of $\lambda$ is lower than all of the three first years</td>
</tr>
</tbody>
</table>

**Cycle**  
**Opportunistic Criterion 2**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Opportunistic Criterion 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Electoral year’s value of $\lambda$ is lower than for immediate pre-electoral year</td>
</tr>
</tbody>
</table>

These two criteria intend to capture trends towards expansionary policies as the election
year approaches, as well as expansionary policy shocks during the electoral year. As shown in the 3rd and 4th columns of Table 1, under Criterion 1 only 6 out of 24 countries exhibited policy patterns compatible with opportunistic behavior. Similarly, when the sample is restricted to only “normal” cycles, 7 out of 21 countries show opportunistic patterns.

Nonetheless, using Criterion 2 in columns 5 and 6 of Table 1 shows that the average value of $\lambda$ during electoral years is lower than in the immediate pre-electoral year for 15 out of 24 countries and that in 13 out of 21 countries the value of $\lambda$ was lower at the end of the “normal” cycle than at the start. As a result, we cannot determine unambiguously whether policy makers, in general, are behaving in a “Nordhaus-opportunistic” manner.

Finally, we note that governments with shorter political cycles show more evident opportunistic behavior. The possibility that shorter cycles give incentive to opportunism could be explained by the public officials’ desire to “show results” or by more intense political battles. The specific elements that shape the behavior of government is an interesting topic that is beyond the objectives of this paper.

### 3.2 Evidence on party ideology

In order to study the policy preferences of political parties representing different ideologies, we separated the parties into two categories: *Left* and *Right*; the distinction made here mimics the classification of the DPI. We were able to gather information on 16 of countries with at least two different ideologies alternating power, where we included only countries for which data was available for at least one full cycle for each ideology. The average country specific $\lambda$-values for both ideologies are presented in columns 7 and 8 of Table 1.

As shown there, parties associated with a Left ideology have lower values of $\lambda$ in 11 out of 16 countries. Only for Australia, France, Germany, Norway and Switzerland do we find that the Left-wing party is more concerned about inflation than the Right-wing party, a result that is not too surprising in the case of the four European countries, where the ideological
differences between the parties are less marked than in most of the rest of the world.

Still, if we look at the overall average for all 16 countries, the value for $\lambda$ is 0.66 and 0.71 for Left and Right parties, respectively, and the difference is significantly different than zero at the 1% level. When the sample is restricted to “normal” cycles only, the results are almost identical, with the only change being that the difference between the average $\lambda$’s of Left and Right ideologies becomes even larger.

The above result supports the claim made by Alesina (1987) and Hibbs’ (1977) that party ideology will have an incidence in how the government pursues policy goals: the right-wing party will be mostly concerned about low and stable inflation, whereas the left-wing party will have more interest in stabilizing the output gap. Does that necessarily mean that each individual party is not behaving in an opportunist manner? We further examine this issue next in our analysis of party resemblance.

3.3 Evidence on party resemblance

We now turn our attention towards what we consider is another important aspect of political opportunism: party resemblance. In countries with strong bipartisan systems with clearly separated ideologies, the incumbent’s party could benefit from public policies that emulate those of a rival party, as these policies are likely to attract voters in the middle of the ideological spectrum. If such kind of opportunism exists, then we should be able to observe it with our data.

In order to collect party-specific information with more than one data point, we selected countries with a stable and distinguishable bipartisan system where each party has reached power for at least two periods within our sample data. We then calculated the patterns of revealed preferences throughout the electoral cycle for each political party separately. Altogether, 8 countries meet these criteria: Australia, Canada, Costa Rica, Germany, New Zealand, Sweden, Switzerland, and the USA. We graph the average values for $\lambda$ for each
party during the entire cycle in Figure 2.

Noticeably, only about half of these countries were considered opportunistic by our previous analysis (3 according to Criterion 1 and 6 when using Criterion 2) and only four of them showed $\lambda$-values that were significantly higher for the right-wing party. Still, for all 8 countries we find party resemblance, measured by the *convergence of preferences*, as the difference between the $\lambda$-values of each party becomes smaller prior to the elections. This shown in the last column of Table 1.

For all these countries we find that the difference among political parties of their revealed preferences towards inflation stabilization becomes smaller as the election date arrives. On average, for the eight countries this difference is reduced by 50\% between the pre-electoral year to the electoral year. The convergence of preferences on election years ranges from almost 7\% (Sweden) all the way to over 96\% (Australia). This behavior is consistent with the median-voter models described by Buchanan and Tullock (1965), Mueller (1976) and Caplin and Nalebuff (1991), among many others.

Taking a close look at the behavior of the Right-wing parties in Figure 2, we find a striking resemblance in 7 out of the 8 countries: On the electoral year, the Right either reduces its preference towards inflation stability, or it maintains it basically unchanged. This observation shows evidence that the Right ideology tends to behave opportunistically according to Nordhaus’ standards. The only exception is Switzerland, but in this country the Left has on average a higher $\lambda$ than the Right, so the increase in $\lambda$ on election year is consistent with party resemblance.

At the same time, we cannot find any general pattern of a Nordhaus-opportunistic conduct for the Left; in Costa Rica, Sweden and Switzerland the Left tends to fight inflation on the election year; in Australia and Germany they try to expand the economy, while in Canada, New Zealand and the USA there is no significant change in $\lambda$ during the latter part of the administration.
Summarizing our empirical findings, on the one hand, support the presence of a partisan cycle in policy makers’ intentions, consistent with Hibbs (1977) and Alesina (1987), with the Right-wing party being on average mostly concerned about inflation stability and the Left-wing party relatively more interested in output stability. On the other hand, we cannot unambiguously conclude from our results that countries are opportunistic in Nordhaus’ (1975) sense; if we look at average preferences, only 25% of the countries (or 33% when limiting our focus to “normal” cycles) become more expansive in the second part of administration, while if we focus solely on what happens in the election year, roughly 62% of the countries follow an opportunistic behavior.

Yet, when we separate party ideologies for the 8 countries that meet the required criteria and analyze the political cycle, we find strong evidence of a Nordhaus-opportunistic behavior of the Right-wing parties, and overwhelming support of a convergence of preferences or party resemblance in the electoral year, which should also be viewed as an opportunistic conduct of policy makers, consistent with the median-voter literature.

4 Conclusions

In this paper we generate a time-series for the revealed preferences of policy makers towards inflation stability (vis-a-vis output stability) for a sample of 24 economies, in order to study the behavior of political parties. Such behavior is essential in both the partisan cycle models developed by Hibbs (1977) and Alesina (1987) and the opportunistic political cycle analysis first introduced by Nordhaus (1975). Our evidence supports Hibbs and Alesina’s claim over Nordhaus’ view; still, for at least eight countries we find that both approaches can explain the incumbent party’s behavior at election time, and for these countries we find strong support to a different type of opportunistic conduct, namely party resemblance.

This study leaves open several questions that should be addressed by future research. First, one could study if the strength or variability of the political cycle can be explained
by country-specific factors such as the political system (parliamentary vs. presidential), the existence of reelection, government size, economic development, and more. Also, it would be interesting to analyze whether or not changes in the economic system and institutions (central bank structure, trade unification or monetary unions, for example) have contributed to making the cycle less variable. Finally, one could use the proposed measure of preferences and their changes to find similarities between countries, and establish whether or not the political cycle is being exported. We hope to address all these important questions soon.

References


[40] Shi, Min and Jakob Svensson (2002). “Political Budget Cycles in Developed and Developing Countries”, mimeo.

Appendix: Data Sources


Information of political parties and electoral dates was obtained mainly from the *Database on Political Institutions* in Beck et al (2001), and also partly completed through direct inquiries to individual government sources.
Figure 1: Inflation, Output Growth and the Electoral Cycle

USA
Inflation and Output Growth

AUSTRALIA
Inflation and Output Growth

CANADA
Inflation and Output Growth

NEW ZEALAND
Inflation and Output Growth
Figure 1: Inflation, Output Growth and the Electoral Cycle
(continued)
Table 1: Preferences according to Party Ideology and Opportunistic Criteria

<table>
<thead>
<tr>
<th>Country</th>
<th>Length of cycle</th>
<th>Opportunistic Criterion 1 Actual Cycle</th>
<th>Normal Cycle</th>
<th>Opportunistic Criterion 2 Actual Cycle</th>
<th>Normal Cycle</th>
<th>Preferences: Left-wing Party</th>
<th>Preferences: Right-wing Party</th>
<th>Coverage of preferences (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>3 years</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0.7158</td>
<td>0.5379</td>
<td>96.49%</td>
</tr>
<tr>
<td>Austria</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Barbados</td>
<td>variable</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0.7074</td>
<td>0.8189</td>
<td>*</td>
</tr>
<tr>
<td>Belgium</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Canada</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0.8295</td>
<td>0.9223</td>
<td>36.46%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>0.1332</td>
<td>0.2087</td>
<td>64.75%</td>
</tr>
<tr>
<td>Denmark</td>
<td>variable</td>
<td>No</td>
<td>*</td>
<td>No</td>
<td>*</td>
<td>0.8098</td>
<td>0.8314</td>
<td>*</td>
</tr>
<tr>
<td>Finland</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>0.7779</td>
<td>0.9409</td>
<td>*</td>
</tr>
<tr>
<td>France</td>
<td>variable</td>
<td>Yes</td>
<td>*</td>
<td>Yes</td>
<td>*</td>
<td>0.8065</td>
<td>0.7028</td>
<td>*</td>
</tr>
<tr>
<td>Germany</td>
<td>4 years</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0.9024</td>
<td>0.7307</td>
<td>70.21%</td>
</tr>
<tr>
<td>Israel</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Japan</td>
<td>3 years</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Mexico</td>
<td>6 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Netherlands</td>
<td>variable</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>New Zealand</td>
<td>3 years</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0.4576</td>
<td>0.8112</td>
<td>27.80%</td>
</tr>
<tr>
<td>Norway</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>0.8380</td>
<td>0.7645</td>
<td>*</td>
</tr>
<tr>
<td>Peru</td>
<td>5 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0.0102</td>
<td>0.2007</td>
<td>*</td>
</tr>
<tr>
<td>Portugal</td>
<td>4 years</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Spain</td>
<td>variable</td>
<td>No</td>
<td>*</td>
<td>No</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sweden</td>
<td>3 years</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0.7514</td>
<td>0.7529</td>
<td>6.76%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0.8171</td>
<td>0.7548</td>
<td>48.70%</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>variable</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0.8434</td>
<td>0.8560</td>
<td>*</td>
</tr>
<tr>
<td>UK</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>0.3923</td>
<td>0.6328</td>
<td>*</td>
</tr>
<tr>
<td>USA</td>
<td>4 years</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>0.8183</td>
<td>0.8810</td>
<td>47.70%</td>
</tr>
<tr>
<td><strong>Average/Fraction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25.00%</td>
<td>33.33%</td>
<td>62.50%</td>
</tr>
</tbody>
</table>

(*) : Computation not available/applicable
(1) : Reduction in the difference of preferences between political parties on election year (party resemblance)
Figure 2: Policy Makers' Revealed Preferences and Party Ideology

USA
Preferences of Left vs. Right in the Electoral Cycle

AUSTRALIA
Preferences of Left vs. Right in the Electoral Cycle

CANADA
Preferences of Left vs. Right in the Electoral Cycle

NEW ZEALAND
Preferences of Left vs. Right in the Electoral Cycle
Figure 2: Policy Makers' Revealed Preferences and Party Ideology (continued)

COSTA RICA
Preferences of Left vs. Right in the Electoral Cycle

SWEDEN
Preferences of Left vs. Right in the Electoral Cycle

GERMANY
Preferences of Left vs. Right in the Electoral Cycle

SWITZERLAND
Preferences of Left vs. Right in the Electoral Cycle