

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

Stefan Krause and Fabio Méndez*

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Abstract

We generate data on the relative preferences of policy makers for inflation and output stability in order to study the behavior of political parties in over 24 countries. Such behavior is essential in both the partisan cycle models and the opportunistic political cycle analysis.

Our evidence supports the partisan view, with right-wing parties exhibiting a higher relative preference towards stabilizing inflation than left-wing parties, while 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.

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*Department of Economics, Emory University, and Department of Economics, University of Arkansas. Please send comments to skrause@emory.edu or fmendez@walton.uark.edu. We thank Stephen G. Cecchetti, Chris Curran, Roisin O'Sullivan and Jerry Thursby for their useful suggestions.

1 Introduction

The behavior of policy makers and political parties that are subject to an electoral process is a key component of the political business cycles literature and one that has generated a rich debate. In his seminal paper, Nordhaus (1975) treated political parties as opportunistic groups with similar preferences. Others like Hibbs (1977) and Alesina (1987) emphasized the existence of different ideologies across non-opportunistic political groups that alternate power and “assign different weights to unemployment and inflation as economic bads” (Alesina, 1987).

Noticeably, the assumptions made about the behavior of political parties can yield substantially different results regarding the timing and the direction of the predicted economic cycles. Nordhaus’ original conclusion is that the government will pursue an economic expansion as the election day grows nearer, regardless of the ideology of the party in power. Both Hibbs’ and Alesina’s models, in contrast, predict adjustments in the levels of inflation and unemployment that arise as the political power changes hands and that are dependent on the incumbent’s ideology. The specific adjustments are different in Alesina’s and Hibbs’ models as their assumptions about the rationality of the economic agents differ.

Given its importance, several studies have attempted to clarify the true behavior of policy makers.¹ Most of these studies, however, concentrate on the statistical analysis of economic variables like unemployment or output growth, inflation and the money supply throughout the electoral cycle and across political parties (see for example Hibbs (1987), Alesina and Sachs (1988) and Paldam (1991)). That is, they have looked at the policy targets or outcomes rather than at the policy maker’s intentions themselves.

This paper examines how policy makers and political parties behave by focusing on three main questions: 1. How do preferences towards the main macroeconomic variables (inflation

¹The reader is referred to the work by McCallum (1978), Keil (1988), Nordhaus, Alesina and Schultze (1989), Haynes and Stone (1990), Hibbs (1994), and, more recently, Drazen (2000) and Castro and Veiga (2003), among many others.

and output growth) 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.

In order to answer these questions we focus directly on measuring *policy makers' revealed preferences towards stabilizing inflation and output growth* instead of looking at macroeconomic outcomes, as has been done in the literature to date. This approach has several advantages: First, since the values of inflation and output growth are likely to be generated simultaneously, choosing to analyze only one of these variables might be an incomplete representation of the true political cycle. For example, if a government is said to be opportunistic when it stimulates the economy during electoral years at the expense of inflationary pressures, then the analysis of a sustained period of economic growth and low inflation could lead to different conclusions regarding the opportunism of the government depending on which variable is analyzed. By generating a one-dimensional measure for preferences we avoid this complication.

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 in the economy. Given that most of these differences are unobservable, the studies that compare the behavior of macroeconomic variables across political parties with different ideologies are potentially biased. Our study of preferences, in contrast, overcomes this problem because the estimated preference parameters are independent of efficiency and efficacy of policy.

Using a standard loss function and a series of macroeconomic variables, we estimate policy makers' preferences towards inflation and output growth stability for a sample of countries. Our approach for obtaining preference parameters that are free of the effects of shocks does not introduce any *ad hoc* corrections directly to the macroeconomic variables as former studies do. We describe the specific methodology used to isolate our preference measure from the effect of shocks later in the paper.

The results of these estimations show that political parties with a leftist ideology have a stronger preference towards stabilizing output growth 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 remainder of the paper is organized as follows: Section 2 illustrates the advantages of using revealed preferences instead of data on inflation and output growth for the study of political business cycles. Section 3 explains the method we employ to estimate the relative weight that authorities place on inflation and output stability. Section 4 discusses our main findings regarding the behavior of incumbent political parties. Finally, Section 5 presents our conclusions and possible directions for future research.

2 Why Preferences and Not Outcomes?

We mentioned that our approach for analyzing the political business cycle employs policy makers' revealed preferences in contrast to the more traditional stance of assessing government's performance by looking at final macroeconomic outcomes (i.e., inflation and unemployment or output growth). We now illustrate the advantages of this approach by looking at some macroeconomic data.

Figure 1 presents time series observations for the annualized levels of inflation and output growth for eight countries: the United States, Canada, Australia, New Zealand, Costa Rica, Germany, Sweden and Switzerland. We also include in the graphs vertical bars to illustrate the election dates for each of these countries.

As can be seen in all cases, inflation and output growth sometimes move in opposite directions and, although inflation has indeed become lower and more stable in general, we can not unambiguously claim that output growth has become less volatile. These two factors

suggest the presence of a large variability and changes in supply shocks and perhaps as well, as it is claimed by Cecchetti, Krause and Flores-Lagunes (2003), changes in the efficiency or efficacy of how policy makers stabilize the economy. Changes in efficiency or efficacy are difficult to control for in econometric studies, but the analysis of preferences, in contrast, is not subject to this problem.

We also observe that periods of high (low) growth often occur within periods of low (high) inflation. Thus, in certain cases, looking directly at macroeconomic variables does not allow us to establish whether the incumbent party is mostly concerned about achieving low and stable inflation, or if its primary interest is to reduce output fluctuations. That is, we are unable to classify economic policies as opportunistic without introducing an *ad hoc* correction to the macroeconomic variables.

In sum, we believe policy makers' intentions are more relevant and much less susceptible to outside factors than macroeconomic outcomes in explaining the political business cycle. Therefore, rather than applying a correction for shocks to the macro variables (practice that has been somewhat controversial), we instead adopt the approach of directly estimating policy maker's revealed preferences. We describe our methodological approach for estimating these preferences in the next section.

3 Measuring Policy Maker's Preferences

As a first step we need to derive a computational method to measure policy maker's preferences towards achieving low inflation and stable growth. The objective is to come up with an estimation of these relative preferences that is isolated from any shocks that might buffet the economy. To do so, we must first define an objective function for the authorities, which will embed the relative weights given to output and inflation stabilization. We then allow the policy maker to optimize his/her goal subject to the structure of the economy, which will result in a policy rule.

Estimating policy intentions is not a controversy-free exercise, and many before us have looked at alternative ways of identifying preferences, mostly for central banks.² 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 the above reasons we feel that looking at policy makers' revealed preferences 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.

To measure policy maker's intentions, we employ a dynamic aggregate demand - aggregate supply model, which will lead us to estimate the structural parameters to be used in the computation of the policy rule. The relevant parameters of the policy rule are employed to calculate revealed preferences. Once we have done that, it is a straightforward matter

²See for example recent studies by Rudebusch (1999), Cecchetti and Ehrmann (2001), Cecchetti, McConnell and Pérez-Quirós (2002), Dennis (2001), Favero and Rovelli (2003) and Surico and Castellnouvo (2003).

to derive a time series of the relative weight given to inflation stability (vis-a-vis output stability), which we will use in the next section to analyze the features of the political cycle for the countries of interest.

3.1 Objective function and policy rule parameters

We assume that the primary concern of the government is to achieve stabilization of the economy through the reduction in the variability of inflation and output growth. In doing this we abstract from other policy goals, such as stabilizing exchange rates and interest rates, 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 .

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

$$\mathcal{L} = E_t[\lambda(\pi_t - \pi_t^T)^2 + (1 - \lambda)(y_t - y_t^T)^2] ; 0 \leq \lambda \leq 1 , \quad (1)$$

where E_t is the expectation operator at time t ; π is inflation; y is (log) aggregate output; π^T and y^T are the target levels of inflation and output;³ and λ is the relative weight given to squared deviations of inflation and output from their desired levels.

Minimization of this loss requires knowledge of the determinants of deviations of inflation and output from their respective targets. We assume that two random shocks push y and π away from y^T and π^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

³Note that the target levels for inflation and output can be a function of time; we come back to this issue later in the paper.

opposite directions. 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 $(\pi - \pi^T)$ that is shifted by the demand shock and the deviations of the policy instrument from its equilibrium value (\tilde{r}) :⁴

$$y - y^T = -\omega(\pi - \pi^T) - \phi(\tilde{r} - d) ; \omega > 0 , \phi > 0 , \quad (2)$$

where ω is the inverse of the slope of the aggregate demand function and $-\phi$ is the response of output to changes in the policy instrument.⁵ Analogously, aggregate supply (AS) is the positive relationship between inflation deviations and output deviations that is shifted by the supply shock:

$$\pi - \pi^T = \gamma(y - y^T) - s ; \gamma > 0 , \quad (3)$$

where γ 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.⁶

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:

$$y - y^T = \frac{-\phi(\tilde{r} - d) + \omega s}{(1 + \omega\gamma)} , \quad (4)$$

$$\pi - \pi^T = \frac{-\phi\gamma(\tilde{r} - d) - s}{(1 + \omega\gamma)} . \quad (5)$$

Minimizing the quadratic loss function, subject to the constraints imposed by the struc-

⁴The equilibrium value of the interest rate is defined as the value needed such that output would equal its potential (or target) level.

⁵Romer (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.

⁶Krause (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 3.2. we relax this assumption and employ an AR(2) process for both supply and demand disturbances.

ture of the economy, yields a simple linear policy rule of the form:

$$\tilde{r} = ad + bs , \quad (6)$$

where the optimal values for the coefficients a and b are given by:

$$a^* = 1 , \quad (7)$$

$$b^* = \frac{-\lambda\gamma + (1 - \lambda)\omega}{\phi[\lambda\gamma^2 + (1 - \lambda)]} . \quad (8)$$

Thus, an *optimal policy rule* has two parts: first the authorities completely neutralize the effect of demand shocks, and second they accommodate supply shocks depending on the structural parameters (ω, γ, ϕ) and their preferences (λ) .

Even though the optimal rule provides an important benchmark for assessing policy performance, we are more interested in the parameters a and b 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:

$$Var(y) \equiv E(y_t - y_t^T)^2 = (1 + \omega\gamma)^{-2}[\phi^2(a - 1)^2\sigma_d^2 + (\omega - \phi b)^2\sigma_s^2] , \quad (9)$$

$$Var(\pi) \equiv E(\pi_t - \pi_t^T)^2 = (1 + \omega\gamma)^{-2}[\gamma^2\phi^2(a - 1)^2\sigma_d^2 + (1 + \gamma\phi b)^2\sigma_s^2] . \quad (10)$$

Combining equations (9) and (10) we can solve for the parameter b of the actual policy rule:

$$b = \frac{(1 + \omega\gamma)(\sigma_\pi^2 - \gamma^2\sigma_y^2) - (1 - \omega\gamma)\sigma_s^2}{2\gamma\phi\sigma_d^2} . \quad (11)$$

Given the estimate for b and equation (9) we obtain the squared deviation of a from its optimal value, i.e.:

$$(a - 1)^2 = \frac{(1 + \omega\gamma)^2\sigma_y^2 - (\omega - \phi b)^2\sigma_s^2}{\phi^2\sigma_d^2} . \quad (12)$$

Merging equations (8) and (11) we can thusly derive the coefficient of preference for inflation stability, λ , which is given by:

$$\lambda = \frac{(\omega - \phi b)}{(\omega - \phi b) + \gamma(1 + \gamma\phi b)} . \quad (13)$$

3.2 Estimating the structural parameters and revealed preferences

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

$$\tilde{y}_t = -\omega\tilde{\pi}_t - \phi(\tilde{r}_t - d_t) , \quad (2')$$

$$\tilde{\pi}_t = \gamma\tilde{y}_t - s_t , \quad (3')$$

where we have defined $\tilde{y} = y - y^T$ and $\tilde{\pi} = \pi - \pi^T$ for notational simplicity. 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.^{7,8}

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

$$s_t = h_t - \psi f_t , \quad (14)$$

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

⁷The only exception is the case of Portugal, for which a linear trend for inflation yields substantially higher values for λ 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 λ across all periods and not so much the direction of its change, we have opted to ignore this issue.

⁸Results of these alternative measures for λ are available upon requests from the authors.

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.:⁹

$$d_t = \varphi_1 d_{t-1} + \varphi_2 d_{t-2} + k_{d,t} ; E_t(k_{d,t}) = 0 , \quad (15)$$

$$h_t = \chi_1 h_{t-1} + \chi_2 h_{t-2} + k_{h,t} ; E_t(k_{h,t}) = 0 . \quad (16)$$

Using equations (2'), (3') and (14) we can represent the aggregate shocks as:

$$d_t = \frac{\tilde{y}_t + \omega \tilde{\pi}_t}{\phi} + \tilde{r}_t , \quad (17)$$

$$h_t = s_t - \psi \tilde{f}_t = \gamma \tilde{y}_t - \tilde{\pi}_t - \psi f_t . \quad (18)$$

Substituting (17) into the right-hand side of (15) and the solution into (2') yields:

$$\tilde{y}_t = -\omega \tilde{\pi}_t - \phi(\tilde{r}_t + \varphi_1 \tilde{r}_{t-1} + \varphi_2 \tilde{r}_{t-2}) + \varphi_1 \tilde{y}_{t-1} + \varphi_2 \tilde{y}_{t-2} + \omega \varphi_1 \tilde{\pi}_{t-1} + \omega \varphi_2 \tilde{\pi}_{t-2} + \phi k_{d,t} . \quad (19)$$

Analogously, substituting (18) into the right-hand side of (16) and the solution into (3') results in the following:

$$\tilde{\pi}_t = \gamma \tilde{y}_t + \psi(f_t + \chi_1 f_{t-1} + \chi_2 f_{t-2}) - \gamma \chi_1 \tilde{y}_{t-1} - \gamma \chi_2 \tilde{y}_{t-2} + \chi_1 \tilde{\pi}_{t-1} + \chi_2 \tilde{\pi}_{t-2} - k_{h,t} . \quad (20)$$

The system of equations (19) and (20) 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 the lagged demeaned ex-post real interest rate ($\tilde{r}_{t-1} - \tilde{\pi}_{t-1}$), 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

⁹The assumption about the autoregressive structure of the shocks is only crucial in terms of determining the order of the Vector Autoregression in equations (21) and (22) 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.

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 ($\tilde{e}_{t-1} + \tilde{\pi}_{t-1}^x$), where e is nominal exchange rate devaluation and π^x is foreign inflation. Taking this into account, we estimate the dynamic behavior of output and inflation through the following system:

$$\tilde{y}_t = -\omega \tilde{\pi}_t - \phi(\tilde{l}_{t-1} - \tilde{\pi}_{t-1}) + \sum_{l=1}^2 \alpha_{1l} \tilde{y}_{t-l} + \sum_{l=1}^2 \alpha_{1(l+2)} \tilde{\pi}_{t-l} + u_{yt} , \quad (21)$$

$$\tilde{\pi}_t = \gamma \tilde{y}_t + \psi(\tilde{e}_{t-1} + \tilde{\pi}_{t-1}^x) + \sum_{l=1}^2 \alpha_{2l} \tilde{y}_{t-l} + \sum_{l=1}^2 \alpha_{2(l+2)} \tilde{\pi}_{t-l} + u_{\pi t} , \quad (22)$$

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.¹⁰ 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 external inflation affects domestic prices first and the adjustment in output takes place later, both of which are consistent with recent empirical findings.

¹⁰This 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.

Since the real interest rate only enters the dynamic aggregate demand equation (21) and the external price inflation only enters the dynamic aggregate supply equation (22) we can identify the parameters ω , γ and ϕ through the estimation of the following vector autoregression:¹¹

$$\tilde{y}_t = \beta_{1r}(\tilde{v}_{t-1} - \tilde{\pi}_{t-1}) + \beta_{1f}(\tilde{e}_{t-1} + \tilde{\pi}_{t-1}^x) + \sum_{l=1}^2 \beta_{1l} \tilde{y}_{t-l} + \sum_{l=1}^2 \beta_{1(l+2)} \tilde{\pi}_{t-l} + \epsilon_{yt} , \quad (23)$$

$$\tilde{\pi}_t = \beta_{2r}(\tilde{v}_{t-1} - \tilde{\pi}_{t-1}) + \beta_{2f}(\tilde{e}_{t-1} + \tilde{\pi}_{t-1}^x) + \sum_{l=1}^2 \beta_{2l} \tilde{y}_{t-l} + \sum_{l=1}^2 \beta_{2(l+2)} \tilde{\pi}_{t-l} + \epsilon_{\pi t} . \quad (24)$$

It is straightforward to show that the estimates for ω , γ and ϕ can be obtained from the VAR estimation as follows:

$$\hat{\omega} = -\frac{\beta_{1f}}{\beta_{2f}} , \quad (25)$$

$$\hat{\gamma} = \frac{\beta_{2r}}{\beta_{1r}} , \quad (26)$$

$$\hat{\phi} = -\beta_{1r}(1 + \hat{\omega}\hat{\gamma}) . \quad (27)$$

Since the preference measure is a simple function of the structural parameters, we simply compute it directly from the estimates, i.e.:

$$\hat{\lambda} = \frac{2\hat{\omega}}{2\hat{\omega} + \hat{\gamma}(1 - \hat{\omega}\hat{\gamma})} . \quad (28)$$

One last important remark, before we look at our findings, is that $\hat{\lambda}$ will be bounded between 0 and 1. Since both ω and γ are positive parameters, we only need to attain that the product $\omega\gamma$ is no larger than 1. But it is straightforward to verify that if $\hat{\omega}\hat{\gamma} > 1$, the dynamic AD-AS system would become unstable, which is inconsistent with the empirical evidence. As a result, we are able to employ equation (28) to estimate the time-series of the preference parameter for our sample of countries.

¹¹The 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.

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 λ for the 24 countries in the sample; country specific data availability determined the maximum span of each time series for λ . To avoid any problems of seasonality in the estimate of policy maker's 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 λ by taking a simple 4-quarter average from the time series.¹² We turn to our main findings in the next section.

4 Results: Patterns of Political Behavior

We now present the analysis of policy maker's preferences as summarized by the parameter λ 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 growth) 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

¹²The quarterly and yearly estimates for λ and their respective standard deviations are available upon request from the authors.

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, in order to avoid this problem, we also constructed a subsample of observations from years within electoral cycles of normal length, where the normal length of the electoral cycle is defined by the historical mode. 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.

4.1 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 (λ) 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 λ 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

- 3-year Electoral year's average value of λ is lower than for both pre-electoral years
- 4-year Average value of λ is lower for last two years of the cycle than for first two years and the electoral year's value of λ is lower than for the pre-electoral year
- 5-year Average value of λ is lower for last two years of the cycle than for first three years and the electoral year's value of λ is lower than all of the three first years
- 6-year Average value of λ is lower for last three years of the cycle than for first three years and the electoral year's value of λ is lower than all of the three first years

Cycle Opportunistic Criterion 2

- All Electoral year's value of λ is lower than for immediate pre-electoral year

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 λ 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 λ 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.

4.2 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 λ -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 λ 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 λ 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 λ ’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 stable and sustainable economic growth. 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.

4.3 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 λ 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 λ -values that were significantly higher for the right-wing party. Still, for all 8 countries we find party resemblance, measured by convergence of preferences or the *reduction in λ -difference* prior to the elections, as 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 reduction in λ -difference on election year 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 λ than the Right, so the increase in λ 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 λ 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 growth 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.

5 Conclusions

In this paper we generate a time-series for the revealed preferences of policy makers towards inflation stability (vis-a-vis output growth 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.

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Appendix: Data Sources

All macroeconomic data for Australia, Austria, Barbados, Belgium, Canada, Costa Rica, Denmark, Finland, France, Germany, Israel, Japan, Mexico, Netherlands, New Zealand, Norway, Peru, Portugal, Spain, Sweden, Switzerland, Trinidad & Tobago, the United Kingdom and the United States are from *International Financial Statistics CD_ROM* (September 2002), except for Costa Rica, where the data for output was obtained from the Banco Central de Costa Rica. For Austria, Belgium, France, Germany, Netherlands and Spain the data is for 1974:I-1998:IV; for Denmark, Norway and Sweden, 1974:I-2000:IV; Australia, Japan, the United Kingdom and the United States, 1974:I-2001:IV; Canada, 1975:I-2001:IV; Switzerland, 1976:I-2000:IV; Costa Rica, 1976:I-2001:IV; Barbados, 1977:I-2000:IV; Finland and Trinidad & Tobago, 1978:I-1998:IV; New Zealand, 1978:I-2000:IV; Mexico, 1978:I-2001:IV; Peru, 1979:I-2001:IV; Portugal, 1981:I-1998:IV; and Israel, 1982:I-2000:IV. *Output* (y) is given by seasonally adjusted industrial production, except for Costa Rica (Indice Mensual de Actividad Económica), and Peru (GDP-Volume, seasonally adjusted). *Inflation* (π) is given by the annualized CPI inflation rate for all countries. The *nominal interest rate* (i) is given by the money market rate except for Israel and Mexico (deposit rate), and Barbados, Costa Rica, Peru, and Trinidad & Tobago (discount rate). *Devaluation* (e) is given by the annualized percentage change of the exchange rate to the US-dollar, except for the US (US\$/DM exchange rate until 1998:IV and US\$/Euro from 1999:I-2001:IV). *External inflation* (π^x) is given by annualized US CPI inflation, except for the US (annualized German CPI inflation).

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

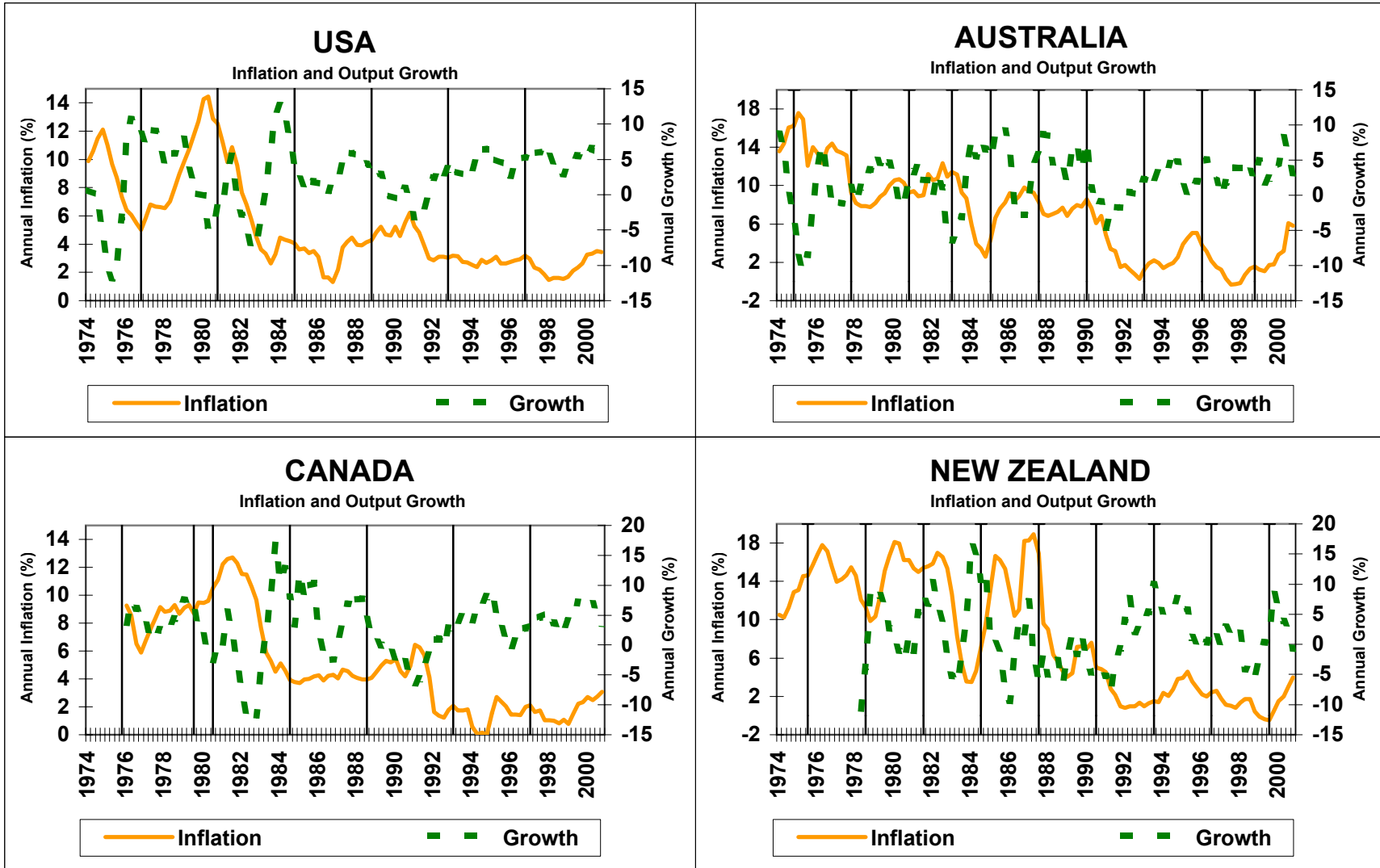


Figure 1: Inflation, Output Growth and the Electoral Cycle
(continued)

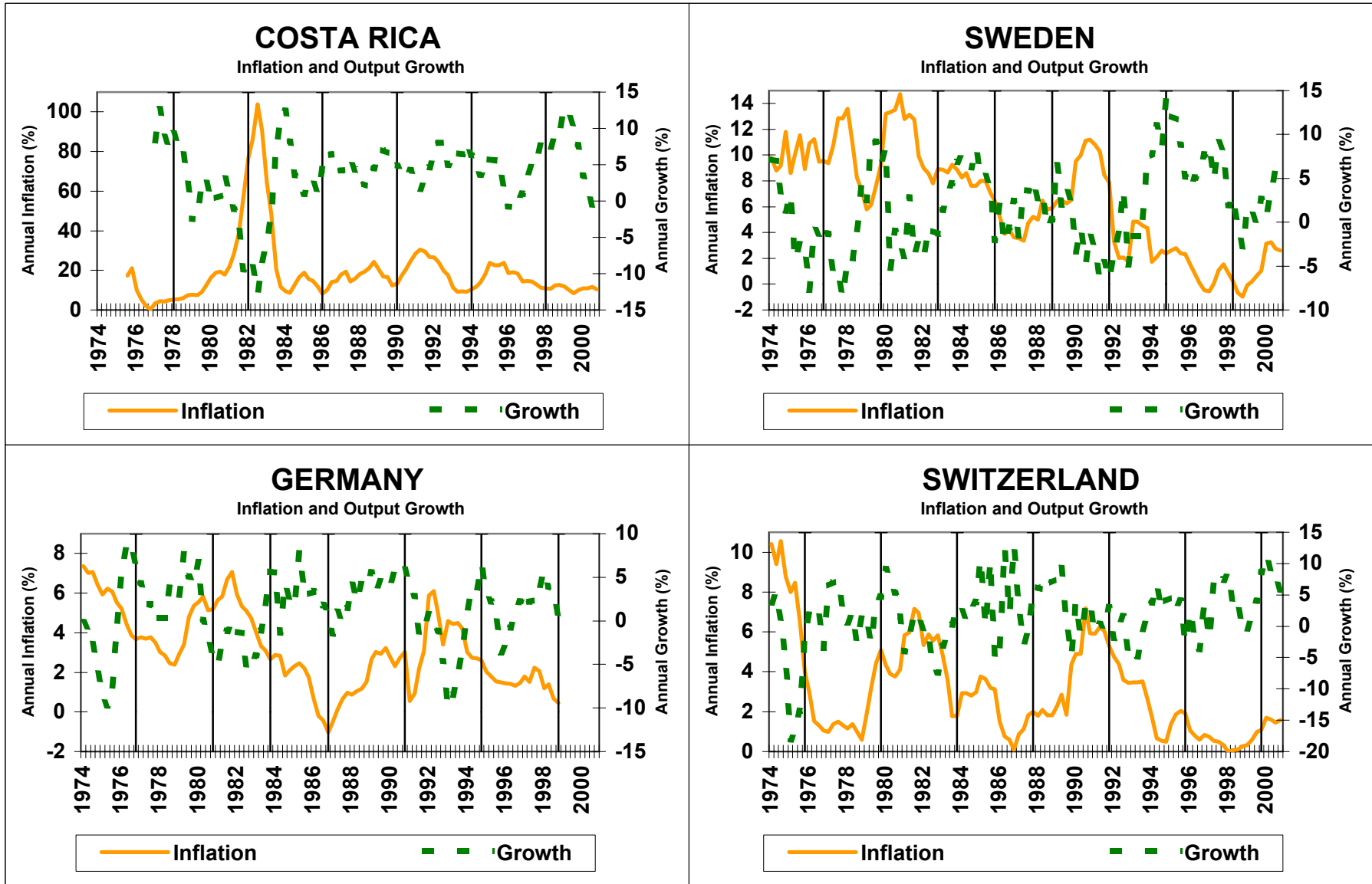


Table 1: Preferences according to Party Ideology and Opportunistic Criteria

Country	Length of cycle	Opportunistic Criterion 1	Criterion 1 (norm. cycle)	Opportunistic Criterion 2	Criterion 2 (norm. cycle)	Preferences: Left-wing Party	Preferences: Right-wing Party	Reduction in λ -difference
Australia	3 years	Yes	Yes	Yes	Yes	0.7158	0.5379	96.49%
Austria	4 years	No	No	No	No	*	*	*
Barbados	variable	No	No	No	No	0.7074	0.8189	*
Belgium	4 years	No	No	No	No	*	*	*
Canada	4 years	No	No	No	No	0.8295	0.9223	36.46%
Costa Rica	4 years	No	No	Yes	Yes	0.1332	0.2087	64.75%
Denmark	variable	No	*	No	*	0.8098	0.8314	*
Finland	4 years	No	No	Yes	Yes	0.7779	0.9409	*
France	variable	Yes	*	Yes	*	0.8065	0.7028	*
Germany	4 years	Yes	Yes	Yes	Yes	0.9024	0.7307	70.21%
Israel	4 years	No	No	Yes	Yes	*	*	*
Japan	3 years	Yes	Yes	Yes	Yes	*	*	*
Mexico	6 years	No	No	Yes	Yes	*	*	*
Netherlands	variable	No	No	No	No	*	*	*
New Zealand	3 years	Yes	Yes	Yes	Yes	0.4576	0.8112	27.80%
Norway	4 years	No	No	Yes	Yes	0.8380	0.7645	*
Peru	5 years	No	No	No	No	0.0102	0.2007	*
Portugal	4 years	No	Yes	Yes	Yes	*	*	*
Spain	variable	No	*	No	*	*	*	*
Sweden	3 years	No	Yes	Yes	Yes	0.7514	0.7529	6.76%
Switzerland	4 years	No	No	No	No	0.8171	0.7548	48.70%
Trinidad & Tobago	variable	Yes	Yes	Yes	Yes	0.8434	0.8560	*
UK	4 years	No	No	Yes	No	0.3923	0.6328	*
USA	4 years	No	No	Yes	Yes	0.8183	0.8810	47.70%
Average/Fraction		25.00%	33.33%	62.50%	61.90%	0.6632	0.7092	49.86%

* : Computation not available/applicable

Figure 2: Policy Makers' Revealed Preferences and Party Ideology

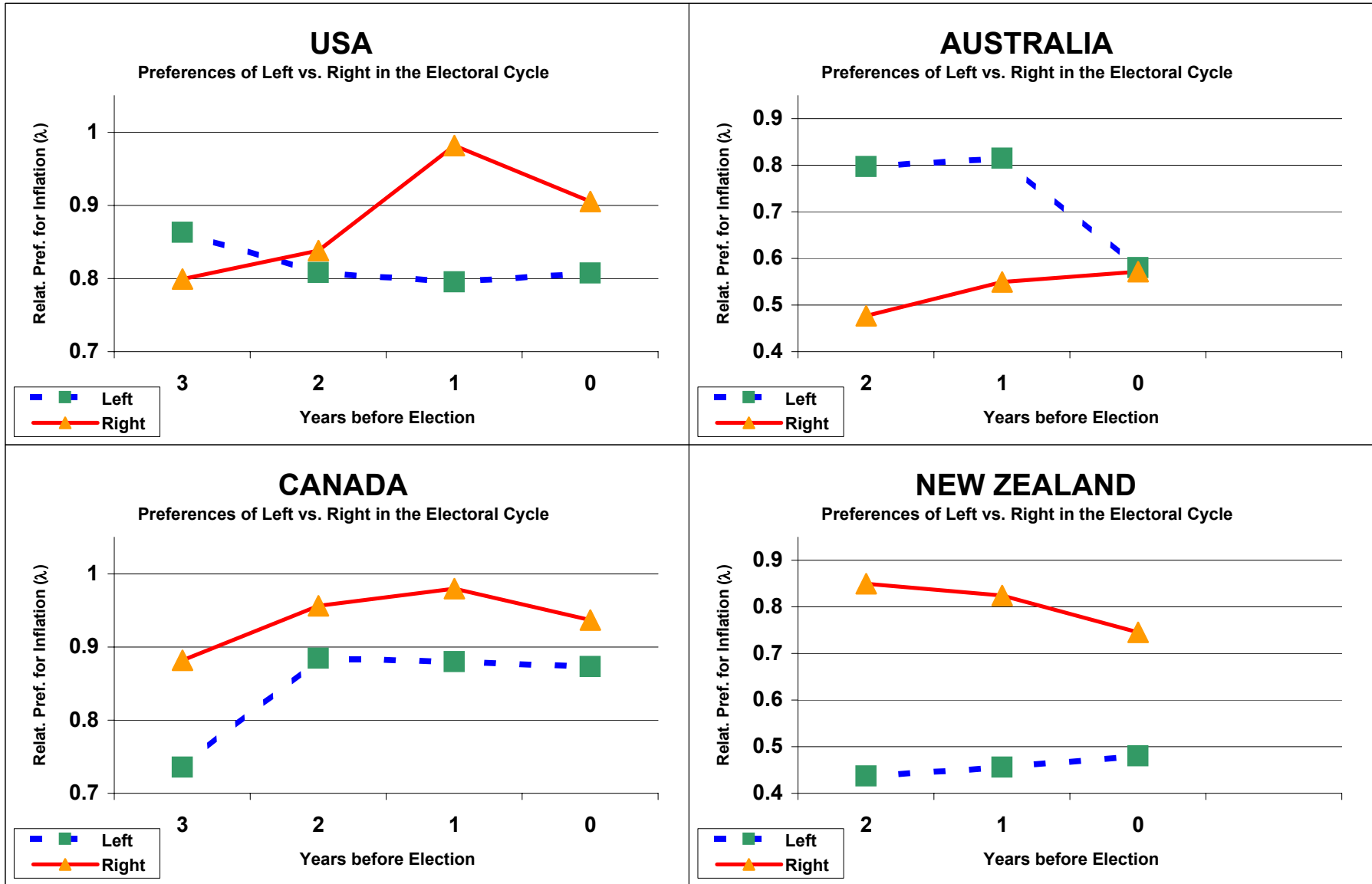


Figure 2: Policy Makers' Revealed Preferences and Party Ideology
(continued)

