Many observers argue that the recent increase in international capital mobility has had broad and nearly universal effects. They suggest that increasing capital mobility has led to an increase in economic policy convergence, a shift in the balance of power between capital and labor,1 a decrease in the ability of states to effectively regulate behavior,2 and a threat to national sovereignty.3 Although there is considerable debate about the extent to which increasingly integrated capital markets have eroded national policy autonomy,4 contributors to this literature share the assumption that domestic macroeconomic policy is driven by either partisan or countercyclical motivations, and that international financial flows have roughly similar effects on similarly situated countries.5 We reexamine the integration hypothesis by studying the effects of increased capital mobility on manipulations of the macroeconomy that may derive from nonpartisan, though not politically disinterested, motivations. We also emphasize the ways in which the effects of international capital mobility are contingent on the choices of national policymakers and the institutional context in which they operate.

The emphasis the integration literature places on the partisan model is probably the result of the stiff criticism received by its main competitor in the closed-economy literature—the opportunistic model of the political business cycle (PBC). The existence of opportunistic PBCs has remained controversial for nearly twenty years. The endurance of the debate derives from a stark contrast between the commonsense

We wish to thank Thaddeus Agar, Lawrence Broz, Benjamin Cohen, Jeff Frieden, Mark Hallerberg, Louis Pauly, Richard Tucker, the participants of the Georgia Tech Political Economy Brown-Bag (particularly Peter Brecke and Radwan Shaban), and anonymous reviewers for their helpful comments and suggestions. Rebecca Hagstrom, Will Hakes, Priti Lokre, and Courtney Kinney provided research assistance, and John McLeod provided computer support and access to data.

1. See Kurzer 1993; and Moses 1994.
3. See Ruggie 1993; and Wendt 1994. For a critique of this argument, see Pauly 1995.
5. Exceptions to this assumption are Hallerberg and Basinger forthcoming; and Moses 1997.
nature of the opportunistic argument and the paucity of evidence supporting its key implications. PBC arguments, in their broadest formulation, assume that politicians are opportunistic and can reap electoral benefits by manipulating the macroeconomy with an eye toward reelection rather than long-term growth and price stabilization. PBC theorists have refined this broad argument in various ways, none of which has received unambiguous empirical support. In this article we argue that existing cross-national examinations of PBC arguments are fundamentally flawed because they fail to consider the constraining influence of institutions, both domestic and international. Specifically, we argue that participation in fixed exchange-rate regimes during periods of high levels of capital mobility denies policymakers the degree of national monetary policy autonomy required to manipulate macroeconomic outcomes for electoral purposes. In addition politicians may have difficulty using macroeconomic outcomes for electoral gains if monetary policy is under the control of a relatively independent central bank. We evaluate this argument using country-specific and time-series cross-sectional tests that find evidence of context-dependent PBCs in eighteen OECD (Organization for Economic Cooperation and Development) countries. In light of these tests, the absence of PBCs in several countries is comprehensible without abandoning the standard PBC model’s characterization of politicians as opportunistic and voters as myopic.

In the first section of the article we provide a brief review of the PBC literature. In the second section we discuss the institutional constraints that are not addressed by the existing PBC literature and argue that focusing on these constraints reveals a set of cases where PBCs should not be expected to occur. In the third section we test our argument against the experiences of eighteen OECD countries.

**Brief Review of PBC Literature**

One can organize the PBC literature by comparing the assumptions scholars make about the motivations of politicians and the process of belief formation employed by voters. “Opportunistic” PBC models assume that politicians are Downsian survival maximizers, whereas “partisan” models emphasize candidates’ ideological motivations. “Adaptive expectations” arguments characterize voters as retrospective, whereas “rational expectations” models assume that voters consider the expected future effects of policy decisions. In this article we address opportunistic cycles. We leave for future research an examination of the effect of institutional constraints on “partisan” PBCs.

**Adaptive PBCs**

In the founding work in the PBC literature William D. Nordhaus assumes that politicians are “opportunistic” survival maximizers. That is, they care only about being elected and can control macroeconomic policy outcomes in a manner that maximizes the probability of reelection. Voters are assumed to be “retrospective”; that is, they

6. See Nordhaus 1975; and MacRae 1977.
assess candidate performance based on the economic outcomes they produce without regard to the future consequences of these policies. These assumptions imply that incumbents will attempt to stimulate the economy as elections approach. Consequently, we can expect politicians to lower the rate of unemployment prior to elections and to raise it “to some relatively high level in order to combat inflation” in the period just after the election.

Nordhaus’ model is controversial on both theoretical and empirical grounds. His own results were weak: he found partial evidence for the existence of PBCs in only four of the nine cases he examined. Edward R. Tufte also predicts unemployment cycles tied to the electoral calendar, but his evidence based on U.S. presidential elections is less than robust. Similarly, Michael S. Lewis-Beck’s test of key implications of the Nordhaus model shows no systematic relationship between the timing of elections and changes in unemployment, growth, or inflation in Britain, France, West Germany, Italy, or the United States. Studies that pool observations across OECD countries also fail to provide substantial evidence that unemployment or output fluctuate with the electoral calendar.

Rational PBCs

The “opportunistic” model has come under increased fire since the rational expectations revolution in macroeconomic theory. Rational expectations are germane in two ways. First, if private actors use all relevant information except the “competence” of different policymakers to predict the inflation rate, politicians should not be able to create preelectoral inflationary surprises in equilibrium. Second, if voters are “ultrarational,” they should include the expected future costs of politically motivated expansions beyond the natural rate when formulating expectations of the incumbents’ postelection macroeconomic performance. The primary empirical implication of the rational PBC model is that, though informational advantages enjoyed by politicians may provide some incentive for the manipulation of policy instruments in the preelectoral period, this will not necessarily result in an association between elections and employment or output.

7. Lewis-Beck refers to voters as “myopic” under the same assumption; Lewis-Beck 1988. This “adaptive” process of expectations formation is in contrast with the “rational” expectations approach discussed later. For comprehensive reviews, see Alesina and Roubini 1992; and Nordhaus 1989.
8. Nordhaus 1975, 184. Nordhaus’ model also has implications for the dynamic behavior of inflation rates with respect to elections, but they are unclear. Nordhaus predicts an increase prior to the elections, but as Alesina and Roubini point out, “given time lags between the effects of aggregate demand policies on output and inflation, one can build a model in which inflation increases after, rather than before the election”; Alesina and Roubini 1992, 665, n.3; see also Lindbeck 1976.
9. For a good, nontechnical review of the early PBC literature, see Alt and Chrystal 1983.
Although the lack of systematic evidence linking macroeconomic outcomes to the electoral calendar is consistent with the rational expectations variant of the opportunistic approach, evidence of preelectoral manipulation of policy instruments would lend more direct support. As it turns out, there is considerably more evidence of a connection between elections and policy instruments than has been the case for macroeconomic outcomes. Some evidence indicates that budget deficits and money growth tend to increase in preelectoral periods in several OECD countries,\(^\text{15}\) and similar monetary\(^\text{16}\) and budgetary\(^\text{17}\) cycles have been found in the United States.

**PBCs and Endogenous Elections**

The approaches to PBCs discussed up to this point each relax one or more of the original model’s assumptions related to the preferences actors hold and the way in which they formulate their beliefs (see Table 1).\(^\text{18}\) In so doing, these studies pay little attention to the extent to which behaviors associated with PBCs are influenced by the institutional structure in which politicians and voters operate. Studies examining the effect of endogenous election timing on PBCs are an important exception to this general trend. The empirical implications of endogenous elections for PBCs are not clear cut, however. If voters’ expectations are adaptive, it is possible that incumbents can take advantage of favorable economic conditions by calling early elections. Note that the main empirical implication of the Nordhaus model holds both when elections are exogenous and when they are endogenous, despite the operation of different causal logics. Thomas F. Cargill and Michael M. Hutchison use a simultaneous equation procedure and find evidence for a “two-way interaction” in which causation runs in both directions in Japan.\(^\text{19}\) In addition, multinational studies that use political outcomes to predict the timing of elections find some evidence that early elections are more likely to be called when economic conditions are favorable.\(^\text{20}\) Although Cargill and Hutchison’s study suggests that endogenous elections do not represent a barrier to a correlation between elections and increased growth, one cross-national study finds evidence that macroeconomic policy cycles are more pronounced in countries with fixed-term elections than in countries where election timing is endogenous.\(^\text{21}\)

Alistair Smith’s model of endogenous election timing in majoritarian systems has implications consistent with the rational expectations version of the opportunistic model.\(^\text{22}\) Smith argues that it is difficult for governments to benefit from a strong economy by calling early elections because of the signal that this behavior sends to the electorate. Since voters are likely to infer that incumbents have called early elec-

\(^\text{18.}\) The terse comparison of alternative models in Table 1 is derived from Alesina and Roubini 1992.
\(^\text{19.}\) Cargill and Hutchison 1991.
\(^\text{21.}\) Terrones 1989.
\(^\text{22.}\) Smith 1996.
<table>
<thead>
<tr>
<th>PBC model(^a)</th>
<th>Rational PBC model(^b)</th>
<th>PBCs with endogenous elections(^c) and rational variant(^d)</th>
<th>Context-dependent PBC model</th>
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<tr>
<td>Assumptions</td>
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<tr>
<td>1. Exploitable Phillips curve</td>
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<tr>
<td>2. Inflation expectations adaptive</td>
<td>2. ’ Rational expectations Voters use all relevant information except level of competence</td>
<td>2. (2. ’ and 2. ” for rational variant)</td>
<td>2.</td>
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<tr>
<td>3. Inflation controlled by policymakers</td>
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<td>3.</td>
<td>3. ’ Control over inflation dependent on control over monetary policy.</td>
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<td>4. Opportunistic politicians</td>
<td>4.</td>
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<td>5. Voters retrospective</td>
<td>5. ’ Voters choose candidate who is rationally expected to deliver the highest utility if elected</td>
<td>5. (5. ’ and 5. ” for rational variant)</td>
<td>5.</td>
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<tr>
<td>6. Exogenous elections</td>
<td>6.</td>
<td>6. ’ Elections exogenous in some cases but not others.</td>
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| Implications |
| Increase in growth and employment prior to elections | Monetary and fiscal variables may exhibit short-lived and irregular cycles, but growth and unemployment all but unrelated to elections. | Increase in growth and employment, decreased inflation prior to elections | Increase in growth and employment prior to elections, unless (a) central bank is highly independent or (b) country pursues a fixed exchange rate amidst highly mobile capital |

\(^a\)For example, see Nordhaus 1975.
\(^b\)For example, see Rogoff and Sibert 1988; and Persson and Tabellini 1990.
\(^c\)For example, see Cargill and Hutchison 1991.
\(^d\)For example, see Smith 1996.
tions because they expect the economic situation to deteriorate, governments only benefit from policy manipulation if they produce favorable economic results at the end of electoral terms, and even then voters are not likely to be fooled by sudden and fortuitous economic turnarounds.

Context-Dependent Opportunistic Cycles

Although we would not argue that close attention to actors’ preferences and beliefs is misplaced, we do argue that relative inattention to the structure in which actors operate explains, in part, why existing models have failed to receive robust empirical support. In this article we relax one assumption of the traditional PBC model that has been accepted in other models. We argue that the extent to which elected officials control the rate of inflation can vary significantly depending on prior institutional choices. These choices can severely limit the ability of politicians to steer the economy in electorally advantageous directions.23 In some cases the steering column may be locked, and in others elected officials may not even be in the driver’s seat.24

Institutional Constraints on PBC Behavior

National monetary policy autonomy refers to the ability of national decision makers to implement monetary policies that are significantly different from the policies implemented by the leaders of nations with which their economies are closely linked. The degree of autonomy that particular leaders possess at a given time derives from a complex interaction of international and domestic forces that is best understood through the Mundell-Fleming approach to payments balances.25 The Mundell-Fleming framework asserts that “a country can have at most two of the following three conditions: A fixed exchange rate, monetary policy autonomy, and capital mobility.”26 From the standpoint of the PBC argument, incumbents can lower interest rates in an attempt to stimulate demand and thereby reduce unemployment, increase output before elections, or both. In an environment of high levels of capital mobility and fixed exchange rates, however, any attempt by national decision makers to set interest rates independent from the rates of the nations with which they are financially integrated is likely to be offset by countervailing speculative flows. Under full

23. Lewis-Beck also argues that the inability of elected officials to steer the economy may explain the lack of evidence for PBC; he does not, however, entertain the possibility that control of the economy may vary systematically across cases; Lewis-Beck 1988.
24. This metaphor is a twist on Greider’s depiction of the monetary policy process in the United States as a “car with two drivers”; Greider 1987. See also Maxfield 1994.
25. The founding works in this approach are Fleming 1962; and Mundell 1963. For a comprehensive, nontechnical introduction, see Dornbusch and Fischer 1987. See Frieden 1991a for an excellent exploration of the implications of the Mundell-Fleming conditions for the politics of economic policy choice in the age of capital mobility; the current discussion leans heavily on this work. Cohen argues that, within the Mundell-Fleming framework, informally pegged exchange rates have effects similar to fixed exchange rates; Cohen 1993.
capital mobility a drop in interest rates will lead domestic investors to send their money abroad in search of higher interest rates. This will drive interest rates back up long before the manipulation of policy instruments has any real effect. Since PBC behavior stems from the ability of elected officials to manipulate the rate of inflation for electoral purposes, PBCs are more likely to occur in cases where government officials possess national policy autonomy than where they do not.

According to the opportunistic PBC approach, politicians are likely to steer the economy toward those macroeconomic outcomes that are most likely to be rewarded by their constituents. Central bank independence is an institutional mechanism specifically designed to insulate the conduct of monetary policy from such short-term political pressures. Independent central banks typically have the authority to resist pressure from politicians to lower interest rates or expand the money supply, thereby frustrating their attempts to time economic expansions for electoral purposes. Independence, however, is an inherently relative concept. Central banks, no matter how independent, must pay attention to signals sent by politicians, because there may be times when continued obstinacy could lend support to forces in the legislature that want to restrict independence. Since a high level of central bank independence greatly restricts the ability of politicians to direct monetary policy for electoral purposes, PBCs are less likely to occur in cases with central bank independence than in cases where the bank is under a higher degree of political control.

We do not attempt to explain cross-national differences in institutional structures that we argue are important in understanding PBC behavior. Thus, as is often the case, it is difficult to establish whether the institutions we identify exert a causal influence on the behaviors we hope to explain, or whether both the institutions and behaviors are being determined by deeper cultural and historical patterns. This is an issue that, though of great theoretical and practical importance, cannot be answered here. Our focus on institutions is not meant to suggest that institutions alone matter, but our evidence is consistent with the argument that a systematic relationship exists between institutions and PBC behavior.

A Caveat Regarding Fiscal Policy

The identified institutional constraints on the opportunistic control of the macro-economy both involve the control of monetary policy by elected national officials. Attentive readers might ask: if monetary policy is so constrained, would not the opportunistic politician use fiscal instruments to stimulate the economy in preelectoral periods? Although the possible answers to this question are numerous, we cannot provide them in a systematic fashion within the confines of this article. We will, however, give provisional answers, if only to make the assumptions guiding our argument more explicit.

27. Ibid.
First, if we accept that fiscal and monetary policy are closely linked, the attempt to steer the economy without coordinating them makes an already complex proposition nearly impossible. Under this assumption, loss of control of monetary instruments is likely to put elected officials in just the sort of highly uncertain position that Lewis-Beck argues leads to an attempt at long-run “economic optimization” and abandonment of the potential short-run benefits of the PBC. Alternatively, one might argue that the dangers of uncoordinated fiscal and monetary policy are not felt in the short run, and, therefore, constraint on the monetary side should not deter fiscal stimulus. Indeed, if one is willing to assume a constant price level, fiscal policy should increase in effectiveness under fixed exchange rates with capital mobility. If this is the case, we can expect fiscally induced PBCs when exchange rates are fixed and capital is mobile and monetarily induced PBCs when exchange rates are flexible and capital is mobile. When the assumption of constant prices is relaxed, however, theory is more indeterminate unless one is willing either to make strong assumptions about the speed of the adjustment process or to accept a precise specification of what constitutes “short run”.

Links between fiscal and monetary policy are also germane to our argument about domestic constraints. Specifically, if fiscal-monetary coordination is not required to create a short-run expansion, then the presence of an independent central bank should not necessarily deter PBC behavior. Thus one should not rule out the possibility of a PBC in the presence of an independent central bank, but we believe that central bank independence makes them less likely, because an independent central bank may be able to take actions that will reduce the benefits and increase the costs of electorally inspired fiscal expansions. Although it may be possible for elected officials to attempt a pre-election fiscal expansion in the presence of a highly independent central bank, we regard it as unlikely that they will do so and difficult to do successfully if they do make such an attempt. We recognize that constraints on monetary policy do not necessarily constitute constraints on fiscal policy; we argue, however, that current economic theory is indeterminate concerning the consequences of coordinated and uncoordinated policies. The issue, therefore, should be left an empirical question—if monetary policy does not constrain fiscal policy, PBCs should not be any rarer in countries where monetary policy is constrained than they are where it is not. The tests in the next section are designed to determine whether or not this is the case.

31. On the relative effectiveness of monetary and fiscal policy within the Mundell-Fleming framework, see Branson and Buiter 1983; and Dornbusch 1976.
32. Thus one needs to resolve the debate between monetarists and Keynesians to produce unambiguous theoretical statements on this issue—a task clearly beyond the scope of this article.
33. Thus an independent central bank can be viewed as an institutional veto player. On the way veto players affect the rate of policy adoption, see Tshebels 1995.
34. The problem of fiscal-monetary mix might also be investigated by testing for electorally induced cycles in policy instruments. We concentrate on policy outcomes in this article because it is for them that the predictions of the adaptive and rational models are most distinct; we leave the examination of context-dependent cycles in instruments for future research.
Testing the Institutional Constraints Argument

If our argument is correct, as national policy autonomy decreases or central bank independence increases, PBCs become less likely. Before we can test this hypothesis, we must first classify the countries in our sample according to the extent to which they forfeited national policy autonomy and the degree of independence enjoyed by their central banks.

The Existence of National Monetary Policy Autonomy

In recent years scholarship examining the consequences of increasing global financial integration has greatly expanded. Clearly, the rapid increase in international capital mobility occurring over recent decades is important; in this article, however, by adopting the Mundell-Fleming framework, we attempt to provide a more nuanced approach to examining the effects of structural change in the international economy than those who imply that increased financial integration has identical effects in every country. According to the Mundell-Fleming approach, the effects of increases in international capital mobility are moderated by the nature of the exchange-rate commitments maintained by individual countries. Thus changes in the global economy may have very different consequences in different countries because they are refracted by the choices of individual governments—both by their attempt to constrain capital movements and by the exchange-rate system they adopt.

International capital mobility. Capital mobility is commonly conceptualized in two ways: first, as a characteristic of the international system or an attribute of individual countries; and second, as a legal or behavioral phenomenon.35

Recent works have identified three sources of the increase in capital mobility: advances in communications and information technologies, the creation of innovative financial instruments (such as the “Euro” money markets) capable of facilitating cross-border capital flows, and the removal of legal barriers to trade by national authorities. In addition to these Michael C. Webb traces the increase in capital flows in the 1970s to the rapid increase in trade flows in the 1960s.36 Since only one of these recognized sources of capital mobility is under the direct control of policymakers—namely, deregulation—and it has largely been a response rather than a stimulus to the other sources of the increase, some observers have concluded that the level of capital mobility is appropriately viewed as a structural characteristic of the international system rather than the product of national choice.37

Although there is broad consensus that the degree of financial integration among advanced capitalist nations increased tremendously between the 1960s and the 1980s,

it is difficult to say more precisely when the transition from the “before capital mobility” world to the “after capital mobility” world took place. The 1970s were clearly a decade of transition. The increase in trade flows that resulted from the reduction of tariff barriers in the 1960s required the support of an almost immediate increase in capital flows. This initial increase in capital flows did not require state action to liberalize capital controls; in fact the flows occurred despite the best efforts of governments to curtail them. Webb argues that by 1978 the nature of the international system had changed to a situation where there was a “striking unwillingness of governments to use trade and capital controls to limit the external imbalances generated by different macroeconomic politics in different countries.”

A key turning point occurred several years earlier, however, when the Bretton Woods exchange-rate system staggered and then died between 1971 and 1973. Although many factors contributed to the decline of the Bretton Woods system, increasing capital mobility, which “made it impossible for governments to stabilize exchange rates without subordinating monetary policy to that end,” was certainly a significant factor.

A quantitative indication of the increase in international capital mobility that occurred during the 1970s can be seen in changes in savings–investment coefficients. Feldstein-Horioka coefficients measure the extent to which an economy’s rate of domestic investment is determined by its domestic savings rate. When capital is perfectly immobile, domestic investment should be fully determined by domestic savings. In contrast when capital is perfectly mobile, domestic investment should be less dependent on domestic savings. Thus when domestic investment is regressed on domestic savings, the resulting coefficient can be interpreted as a systemwide measure of capital mobility that would equal 0 when capital is perfectly mobile and 1 when capital is wholly constrained.

The use of savings–investment coefficients as an indicator for capital mobility has been controversial. First, since both savings and investment are procyclical, estimates of the relationship between them may be inflated. Second, because the world interest rate is likely to be influenced by changes in the savings rates of large countries, the assumption that capital mobility will lead to a decoupling of domestic investment from domestic savings will not hold for large countries. Finally, in contrast to a broad consensus that capital mobility has been increasing in recent decades, many studies have found that savings–investment ratios show little, if any, sign of decline during the last thirty years. These concerns, however, do not necessarily rule out the Feldstein-Horioka coefficient as a measure of capital mobility.

39. Webb cites a 1973 Bundesbank report stating that recent experience had “made it abundantly clear that even stronger administrative action against capital flows from foreign countries... does not suffice when speculative expectations run particularly high”; Webb 1991, 336 n. 80. Similarly, Cohen argues that “restrictions merely invite more and more sophisticated forms of evasion, as governments from Europe to South Asia to Latin America have learned to their regret”; Cohen 1993.
41. See Webb 1991; Gowa 1983; and Odell 1982.
42. Savings and investment data were drawn from OECD, National Account Statistics, various years.
43. See Frankel 1991 for a discussion of alternative measures of capital mobility.
stein and Charles Horioka were well aware of the procyclical problem and sought to ameliorate it by averaging savings and investment over a long enough period to control for cyclical variations. Jeffrey A. Frankel argues that the “large country” problem is not an issue in cross-sectional tests “because all countries share the same world interest rate.” Finally, evidence that Feldstein-Horioka coefficients have not declined as expected may be due to the repeated use of observation periods that were not necessarily representative.

We calculated cross-sectional savings–investment coefficients by regressing five-year averages of savings and investment for the eighteen countries in our sample. Five-year averages are used here, because, for the reasons stated earlier, they are preferred to annual observations, and they yield twice as many observations as ten-year averages. Figure 1 displays estimates of Feldstein-Horioka coefficients for twenty-six periods beginning with the 1960–64 period and the 95 percent confidence interval around particular estimates. Note, first, that these coefficients tend to decline over time. In addition the null hypothesis that the savings–investment coefficient equals 1 (that is, capital is perfectly immobile) can be rejected in those years where the upper bound of the confidence interval falls below the line emanating from “1” on the right-hand axis. Note also that this occurs for the first time in the five-year period ending in 1971, which is in line with the argument that increasing capital mobility played a role in the breakup of Bretton Woods. By the five-year period ending in 1974, however, the coefficient is no longer distinguishable from 1. This might suggest that the initial increase in international capital mobility was fleeting, but it is worth noting that the failure to reject the null hypothesis in the mid-1970s seems to be driven more by a marked increase in the standard error (perhaps reflecting diverse national investment responses to the first oil price shocks) than by a change in the coefficient itself.

Although Figure 1 supports the common perception that a systemic increase in capital mobility began in the 1970s and continues today, important differences may exist among OECD countries in the barriers to capital flows. Unfortunately, establishing evidence of cross-national differences in barriers to capital flows is fraught with difficulties. One option is to examine country-specific time series to generate a Feldstein-Horioka savings–investment coefficient for each country. The cyclical nature of savings and investment make this difficult unless long time-series data are available. Another alternative is to use government restrictions on capital flows as

45. Other studies that examined savings–investment coefficients have chosen to report particular periods rather than moving periods across time. Feldstein and Horioka, for example, report coefficients for five-year periods ending in 1964, 1969, and 1974, none of which is significantly different from 1; Feldstein and Horioka 1980. Penati and Dooley report coefficients for a fifteen-year period ending in 1974 and a five-year period ending in 1979 that are also not significantly different from 1; Penati and Dooley 1984.
46. See Feldstein and Horioka 1980; and Frankel 1991. In his attempt to establish saving–investment coefficient for the United States, Frankel uses ten-year averages to remove some of the cyclical variation, leaving him with only twelve observations in a data set that runs from 1870 to 1987. To address this problem, he also specifies a model using cyclically adjusted annual savings and investment rates. This option is less promising for work aimed at cross-national comparisons, since the cyclical adjustment is based on the Bureau of Economic Analysis’s “middle expansion trend” of the U.S. economy. See also Hallerberg and Basinger forthcoming; Baxter and Crucini 1993; Frankel 1991; and Obstfeld 1995.
an indicator of barriers to cross-national capital movements. Numerous scholars have adopted this approach by aggregating a number of qualitative indicators of alternative government restrictions. Restrictions on capital can be used to indicate barriers to movements across particular borders or averaged across a group of countries. The bars in Figure 1 display annual averages of an index we constructed for seventeen of the countries in our sample. Note that, like the savings-investment coefficients, capital restrictions declined through the 1970s and 1980s. Together, savings-investment coefficients and restrictions on capital movements provide some evidence supporting the notion that the increase in capital mobility dates back to the breakup of the Bretton Woods system.

There are alternatives to the indicators of capital mobility discussed here, but each presents problems, either conceptually or in terms of data availability. Conceptually, covered interest-rate parities capture important aspects of financial integration, but data availability poses a serious problem. Actual capital flows are a poor indicator, because if financial integration reduces interest-rate differentials, few arbitrage opportunities are available to motivate capital flows. Finally, measures based on the long-term implications of capital mobility, such as cross-country consumption correla-

47. See Rose 1994; Garrett 1995; and Simmons 1996.
48. New Zealand is not included due to missing data. Individual country indexes are constructed by summing across the restrictions on (1) the capital account, (2) bilateral payments with IMF members, (3) bilateral payments with nonmembers, and (4) foreign deposits. Data are from IMF, Exchange Arrangements and Exchange Restrictions, various years.
49. The bivariate correlation between these indicators is $R^2 = 0.91$.
51. Simmons argues that “to capture arbitrage conditions, rates on similar financial instruments (e.g., treasury bills of similar maturity) must be collected for precisely the same point in time (e.g., the last trading day of the year);” Simmons 1996, 5.
tions and the convergence in capital–output ratios, are difficult to estimate for the shorter time periods addressed in this article.\footnote{Rose 1994.}

Both of the systemic measures reported earlier point to an increase in capital mobility beginning in the early 1970s, around the time of the breakup of Bretton Woods. We believe that considerable evidence indicates that a qualitative change in the level of capital mobility occurred at this time. In the country-specific tests in the next section we mark the end of the Bretton Woods period as the divide between the “before capital mobility” and “after capital mobility” worlds. This clearly ignores important incremental changes in the degree of capital mobility over time and between countries. Consequently, we also report results in the pooled time-series analysis that utilize a continuous measure of capital mobility.

Changing Exchange-Rate Arrangements. Clearly, the decline of Bretton Woods was the single most dramatic change in the exchange-rate regime since the collapse of the interwar gold standard. Before 1971 all OECD countries, with the partial exception of Canada, pegged their currencies to the dollar, which in turn was linked to gold. After President Richard Nixon “closed the gold window” in August 1971, however, individual countries were again faced with a set of choices regarding the exchange-rate mechanism. Since that time, exchange-rate relationships have been heterogeneous. Important subsets of these nations have made various attempts to resurrect the stabilizing potential of the Bretton Woods system by implementing regional systems of quasi-fixed exchange rates. Some nations have unilaterally chosen to peg their exchange rates either to particular currencies or to a composite of currencies. Others have maintained a “dirty float”; that is, they have not systematically pegged their exchange rates to other currencies but have intervened in foreign exchange markets when they considered it necessary to protect other policy goals. Since 1978 governments have also used various forums (such as G-7 meetings) to engage in ad hoc coordination of exchange-rate interventions.\footnote{For summaries of these efforts, see Webb 1991 and 1995; Putnam and Bayne 1984; Cohen 1993; and Henning 1994.} For the purpose of this discussion, it is important to identify those countries whose exchange rates were “formally or informally pegged” to another currency, because in those cases high levels of capital mobility caused monetary policy autonomy to be significantly curtailed.\footnote{Cohen 1993, 147.}

The European Exchange Rate System (or “snake”), established in April 1972, restricted the exchange-rate fluctuations between participating countries (West Germany, France, Italy, the Netherlands, Belgium, Luxembourg, Denmark, and the United Kingdom) to $\pm 2.25$ percent. Participation in the snake, which remained in effect until 1978, was highly unstable. By the beginning of 1972, Italy and Britain had dropped out, and France only participated intermittently. Norway joined in 1972 and participated until December 1978, the eve of the creation of the European Monetary

\footnote{Rose 1994.}
\footnote{For summaries of these efforts, see Webb 1991 and 1995; Putnam and Bayne 1984; Cohen 1993; and Henning 1994.}
\footnote{Cohen 1993, 147.
System (EMS). Sweden dropped out of the snake in 1977, choosing instead to peg its exchange rate to a composite.55

The Exchange Rate Mechanism of the EMS came closer to creating a stable currency zone than the snake, which it replaced in March 1979. The variability of intra-EMS exchange rates declined over time, and participation has been both expanding and more stable.56 All the original members of the snake, with the important exception of the United Kingdom, joined the EMS in 1979 and remained members throughout the 1980s. Table 2 lists each country’s participation in fixed exchange-rate regimes in the post–Bretton Woods era. In most cases regime membership was clear-cut. Denmark, West Germany, and the Benelux countries were consistent participants in fixed-rate regimes. France was an on again–off again member of the snake and joined the EMS. Italy and Britain left the snake shortly after its conception. Norway and Sweden participated in the snake but not the EMS and, like Ireland, maintained a pegged rate when not participating in multilateral regimes. Austria, Finland, and New Zealand did not participate in either the snake or the EMS but maintained pegged exchange rates for significant periods. In all, twelve of the eighteen countries examined have been participants in fixed exchange-rate arrangements for a significant portion of the post–Bretton Woods period. Since capital was highly mobile during this period, policymakers in these countries are not expected to possess the degree of monetary policy autonomy assumed necessary for the manipulation of the economy for short-term electoral purposes.

Measuring central bank independence. The literature on central bank independence has identified two distinct dimensions of independence—de jure and de facto. De jure independence involves the legal relationship between central bank decision makers and the government, whereas de facto measures attempt to gauge the actual degree of independence as reflected in the behavior of the central bank. Alex Cukierman, Steven Webb, and Bilin Neyapti provide evidence that de facto measures of independence are correlated with price stability in developing nations, and legal measures are correlated with price stability in advanced industrialized nations.57 The key aspects of legal independence concern the appointment, dismissal, and length of tenure of the chief executive officer; procedures governing the resolution of conflicts between the executive branch and the bank; the policy objectives of the bank enshrined in its charter; and the extent to which the public sector is restricted in its ability to borrow from the bank.58 Among OECD nations, central banks exhibit considerable cross-national variance in independence, ranging from those in the United States and Germany, which are among the most independent in the world, to the French central bank, which has traditionally been subordinate to the finance minis-

55. Like Sweden, Austria, Finland, Ireland, New Zealand, and Norway maintained pegged exchange rates outside the snake or EMS for a substantial part of the post–Bretton Woods era.
try. Until recently, change in the degree of central bank independence was rare in OECD countries. 

A number of recent works have attempted to quantify the degree of central bank independence in advanced capitalist countries. Table 3 reports the central bank independence scores for eighteen OECD countries according to various indexes. The indexes display a fair amount of agreement between them. If we compare each country’s score with the median score of independence, we see only a few points of disagreement regarding which cases possess high levels of independence. Australia ranks equal to or above the median on every scale except the Bade and Parkin index.


60. See Maxfield 1997, chap. 4, for a discussion of recent changes in the degree of central bank independence in advanced capitalist countries. Table 3 reports the central bank independence scores for eighteen OECD countries according to various indexes. The indexes display a fair amount of agreement between them. If we compare each country’s score with the median score of independence, we see only a few points of disagreement regarding which cases possess high levels of independence. Australia ranks equal to or above the median on every scale except the Bade and Parkin index.


60. See Maxfield 1997, chap. 4, for a discussion of recent changes in the degree of central bank independence in advanced capitalist countries. Table 3 reports the central bank independence scores for eighteen OECD countries according to various indexes. The indexes display a fair amount of agreement between them. If we compare each country’s score with the median score of independence, we see only a few points of disagreement regarding which cases possess high levels of independence. Australia ranks equal to or above the median on every scale except the Bade and Parkin index.


62. Cukierman, Webb, and Neyapti report roughly decade-long averages. These averages were assigned to their respective individual quarterly observations used in the current study and then averaged to yield a single score that could be compared to the measures generated by other scholars. Note that little within-country variance exists across the Cukierman, Webb, and Neyapti measure. Only seven of the eighteen countries in the sample exhibited any change in their “decade” long averages (interestingly, with the exception of Spain, all of these changes occurred between the periods of 1960–71 and 1972–79, that is, during a period of dramatic changes in the international environment, including the first oil shock, the decline of Bretton Woods, and, as we have argued, a large increase in capital mobility.

TABLE 2. Participation in fixed exchange-rate regimes after 1972 and before 1990 and the satisfaction of Mundell-Fleming conditions for national monetary policy autonomy

<table>
<thead>
<tr>
<th>Country</th>
<th>Snake</th>
<th>EMS (ERM)</th>
<th>Pegged</th>
<th>Conditions for MPA present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Entire period</td>
</tr>
<tr>
<td>Austria</td>
<td>—</td>
<td>—</td>
<td>1973–89</td>
<td>Before 1973</td>
</tr>
<tr>
<td>Canada</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1990</td>
</tr>
<tr>
<td>Denmark</td>
<td>1973–78</td>
<td>1979–89</td>
<td>—</td>
<td>Before 1973</td>
</tr>
<tr>
<td>Finland</td>
<td>—</td>
<td>—</td>
<td>1977–89</td>
<td>Before 1977</td>
</tr>
<tr>
<td>France</td>
<td>Intermittent</td>
<td>1979–89</td>
<td>—</td>
<td>Before 1979</td>
</tr>
<tr>
<td>Great Britain</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1990</td>
</tr>
<tr>
<td>Greece</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1990</td>
</tr>
<tr>
<td>Ireland</td>
<td>1979–89</td>
<td>1973–78</td>
<td>—</td>
<td>Before 1973</td>
</tr>
<tr>
<td>Italy</td>
<td>—</td>
<td>1979–89</td>
<td>—</td>
<td>Before 1979</td>
</tr>
<tr>
<td>Japan</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1991</td>
</tr>
<tr>
<td>Spain</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1989</td>
</tr>
<tr>
<td>United States</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Before 1990</td>
</tr>
</tbody>
</table>

Japan ranks above the median in independence according to the Bade and Parkin index and the Alesina and Summers index but is below the median according to the Grilli, Masciandaro, and Tabellini index and the Cukierman, Webb, and Neyapti index. Greece is below the median on the Grilli, Masciandaro, and Tabellini index but above the median according to the Cukierman, Webb, and Neyapti index. Since the Cukierman, Webb, and Neyapti measure has the widest coverage of cases and is fairly consistent with the other measures, we have used it as the primary indicator of central bank independence in this article.

### Table 3. Alternative measures of central bank independence

<table>
<thead>
<tr>
<th>Country</th>
<th>Alesina and Summers</th>
<th>BPc</th>
<th>GMTd</th>
<th>CWNc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2</td>
<td>1</td>
<td>9f</td>
<td>0.36f</td>
</tr>
<tr>
<td>Austria</td>
<td></td>
<td></td>
<td>9</td>
<td>0.63</td>
</tr>
<tr>
<td>Belgium</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>0.16</td>
</tr>
<tr>
<td>Canada</td>
<td>2.5</td>
<td>2</td>
<td>11</td>
<td>0.45</td>
</tr>
<tr>
<td>Denmark</td>
<td>2.5</td>
<td>2</td>
<td>8</td>
<td>0.50</td>
</tr>
<tr>
<td>Finland</td>
<td></td>
<td></td>
<td></td>
<td>0.28</td>
</tr>
<tr>
<td>France</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>0.29</td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td></td>
<td>4</td>
<td>0.53f</td>
</tr>
<tr>
<td>W. Germany</td>
<td>4</td>
<td>4</td>
<td>14</td>
<td>0.69</td>
</tr>
<tr>
<td>Italy</td>
<td>1.75</td>
<td>1.5</td>
<td>5</td>
<td>0.25</td>
</tr>
<tr>
<td>Ireland</td>
<td></td>
<td></td>
<td>7</td>
<td>0.44</td>
</tr>
<tr>
<td>Japan</td>
<td>2.5f</td>
<td>3f</td>
<td>6</td>
<td>0.18</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0.24</td>
</tr>
<tr>
<td>Norway</td>
<td>2</td>
<td>2</td>
<td></td>
<td>0.16</td>
</tr>
<tr>
<td>Spain</td>
<td>1.5</td>
<td>1</td>
<td>5</td>
<td>0.17</td>
</tr>
<tr>
<td>Sweden</td>
<td>2</td>
<td>2</td>
<td></td>
<td>0.29</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>0.34</td>
</tr>
<tr>
<td>United States</td>
<td>3.5</td>
<td>3</td>
<td>13</td>
<td>0.49</td>
</tr>
<tr>
<td>Median</td>
<td>2.0</td>
<td>2.0</td>
<td>7.0</td>
<td>0.31</td>
</tr>
<tr>
<td>Mean</td>
<td>2.23</td>
<td>2.03</td>
<td>7.5</td>
<td>0.36</td>
</tr>
</tbody>
</table>

*aAll indexes are constructed so that higher numbers indicate greater central bank independence.

*bIndex created by Alesina and Summers (1993) by rescaling and combining the Bade and Parkin (BP) and Grilli, Masciandaro, and Tabellini (GMT) indexes.

*cIndex proposed by Bade and Parkin (1982) and extended by Alesina (1988).

*dSum of economic and political indexes provided by Grilli, Masciandaro, and Tabellini (1991).

*eIndex created by averaging Cukierman, Webb, and Neyapti’s (1992) aggregate legal measure for the period 1960–89.

*fIndicates a score that is above the median on the index in question but below the median on at least one other index.

Country-Specific Tests

Table 4 classifies each of the eighteen OECD countries in our sample based on qualitative differences in national policy autonomy and central bank independence. Countries that maintained fixed exchange rates after the increase in capital mobility in the 1970s forfeited national policy autonomy for at least some of the period,
whereas those that did not maintained it for the entire period. Countries with scores on the Cukierman, Webb, and Neyapti index higher than the sample median are considered to possess, for the country tests, independent central banks. In eight of the countries at least one of the hypothesized institutional constraints on PBC behavior was present for both periods. Our expectation is that there should be no evidence of a PBC in these cases. In contrast, in two cases, Japan and Spain, neither constraint was experienced. If PBCs exist, we should find them here. In eight cases a constraint on PBC behavior was present in one period but not the other. We use a context-dependent test of the PBC model in these cases.

Standard tests of PBC arguments seek to examine whether a significant degree of covariation exists between elections and various macroeconomic outcomes. In its most general form, therefore, the PBC argument can be stated as

$$O_i = a + b_1 E_{it} + e_{it}$$

(1)

where $a$ is the intercept, $O$ is a macroeconomic outcome, $E$ is the presence of an electoral period, $t$ indexes the country, $i$ is the time period, and $e$ is the error term. Where data were available, we estimate two equations in each country, one using percentage change in unemployment, the other using percentage change in industrial output as the dependent variable. The standard PBC hypothesis is that there is a(n) decreasing (increasing) relationship between elections and unemployment (output).

63. Since the Cukierman, Webb, and Neyapti measure is an aggregate of a number of categorical indicators, the median is a more appropriate cutoff point than the mean. We are indebted to an anonymous reviewer for this observation.

64. The exact model employed varies across studies in the literature, because different macroeconomic outcomes are used for the dependent variable (unemployment, growth, and inflation are the most common), and different techniques are used to control for serial autocorrelation and heteroskedasticity.

65. Both dependent variables passed the Phillips-Perron unit root test for stationarity. We used a lagged dependent-variable model to control for serial correlation. The appropriate lag was determined by examining the autocorrelation and partial autocorrelation functions of both dependent variables. Unless otherwise noted country tests employed a single-period lagged dependent variable to control for serial correlation. Cases where additional lags were used are noted in the tables that follow. In every case the specification reported passed the Breusch-Godfrey Lagrange multiplier test for autocorrelation. The White test was used to check for heteroskedasticity. When necessary, a heteroskedasticity-consistent covariance matrix

<table>
<thead>
<tr>
<th>Central bank independence</th>
<th>National policy autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above median</td>
<td>Austria, Denmark, Ireland, West Germany</td>
</tr>
<tr>
<td>Below median</td>
<td>Belgium, Finland, France, Italy, New Zealand, Norway, Sweden</td>
</tr>
</tbody>
</table>

*Because Spain joined the EMS in 1989, only those observations before that year were considered.*
The institutional constraint argument has clear implications for the ten countries that experienced no change in constraints during the period of observation. High levels of central bank independence should inhibit the occurrence of a PBC in Australia, Canada, Greece, and the United States. Furthermore, the combination of above-average central bank independence for the entire period and a commitment to a fixed exchange rate for at least some of the after-capital mobility period makes the avoidance of a PBC in Austria, Denmark, Ireland, and West Germany overdetermined. The absence of either constraint in Japan and Spain, in contrast, suggests that these are cases where opportunistic cycles are most likely to occur.

The country-specific tests reported in Table 5 strongly support these expectations. Given the large number of country tests, we report only the coefficient for the variables of interest: elections. None of the eight countries experiencing the domestic constraint during the entire period shows evidence of electorally induced unemployment or output cycles—the electoral coefficient is not statistically significant in any of these cases, and the sign on the coefficient is as hypothesized in only five of the fifteen tests reported in Table 5, A and B. In contrast there is evidence of opportunistic cycles in each of the two countries that experienced neither constraint during the observed period (Table 5, C). The electoral coefficient has the hypothesized sign and is statistically significant for the unemployment and growth equations in Japan and Spain. The magnitude of the coefficients suggests that, all other things equal, the percentage change in unemployment is nearly two points lower during electoral periods than during nonelectoral periods in Japan. In Spain the percentage change in unemployment drops by 1.3 points during electoral periods. Elections are associated with a 0.7 percentage point increase in the growth rate of industrial production in both countries.

The implications of our argument are less clear for the seven countries that experienced constraints for part of the period but were also unencumbered for part of the period. These countries satisfied the Mundell-Fleming conditions for monetary policy autonomy in the Bretton Woods era but forfeited monetary policy autonomy during at least some of the post-Bretton Woods era by attempting to maintain a fixed exchange rate in one form or another. Since the relevant institutions constitute change was used to calculate standard errors. The instances are noted in the tables (see White 1980). Quarterly data from the OECD Main Economic Indicators data set were used. With one exception (New Zealand) percentage change in the seasonally adjusted number of unemployed was used to measure unemployment. Data for New Zealand are not seasonally adjusted. Growth in output was measured by seasonally adjusted total industrial production, except for Canada (where data were not seasonally adjusted) and Australia (where seasonally adjusted real gross product volume was used). These indicators were the most comparable and widely available indicators. Use of the unemployment rate rather than number of unemployed would control for demographic changes, but a seasonally adjusted version of this indicator was not available for several countries. Other studies have used change in real gross domestic product, but seasonally adjusted quarterly data were unavailable for several countries. Elections were coded as the three quarters preceding and the quarter containing a general election. Sources for electoral data are Mackie and Rose 1982; and Europa World Year Book, various years.

66. Coding issues make Great Britain a special case. It will be discussed later.
67. Results for the full models, including intercepts and lagged dependent variables, are available from the authors on request.


<table>
<thead>
<tr>
<th>Country</th>
<th>$\Delta U$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
<th>$\Delta Y$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.010</td>
<td>0.088</td>
<td>97</td>
<td>-0.005</td>
<td>0.027</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td></td>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>-0.013</td>
<td>0.206</td>
<td>113</td>
<td>0.011</td>
<td>0.093</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td></td>
<td></td>
<td>(0.009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>0.003</td>
<td>0.094</td>
<td>113</td>
<td>-0.007</td>
<td>0.017</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td></td>
<td></td>
<td>(0.006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>0.001</td>
<td>0.246</td>
<td>113</td>
<td>-0.002</td>
<td>0.266</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Cases having high levels of central bank independence and national policy autonomy for the entire period of observation

<table>
<thead>
<tr>
<th>Country</th>
<th>$\Delta U$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
<th>$\Delta Y$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>0.009</td>
<td>0.087</td>
<td>113</td>
<td>-0.001</td>
<td>0.016</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td></td>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>0.059</td>
<td>0.229</td>
<td>99</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.037)</td>
<td></td>
<td></td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>W. Germany</td>
<td>-0.012</td>
<td>0.372</td>
<td>113</td>
<td>-0.002</td>
<td>0.061</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td></td>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>-0.003</td>
<td>0.395</td>
<td>57</td>
<td>0.008</td>
<td>0.040</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td></td>
<td></td>
<td>(0.007)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Cases having high levels of central bank independence for the entire period but national policy autonomy for only part of the period of observation

<table>
<thead>
<tr>
<th>Country</th>
<th>$\Delta U$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
<th>$\Delta Y$ Coefficient</th>
<th>$R^2$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>-0.019**</td>
<td>0.032</td>
<td>113</td>
<td>0.007**</td>
<td>0.518</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td></td>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>-0.013*</td>
<td>0.600</td>
<td>54</td>
<td>0.007*</td>
<td>0.222</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td></td>
<td></td>
<td>(0.005)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C. Cases having neither constraint during the period of observation

$^a$Intercepts and lagged dependent variables not reported.
$^b$Standard errors are shown in parentheses.
$^c$Number of observations is shown in italics.
$^d$White heteroskedasticity-consistent standard error.
$^{**}p < .05$. One-tailed test.
$^{*}p < .10$. One-tailed test.
within these cases, we use a dummy variable interactive model to examine the context-dependent effects of elections on macroeconomic outcomes.

When both the independent variable and the modifying variable are dichotomous, the dummy variable interactive model uses a single regression equation to estimate the relationship between an independent variable and a dependent variable in alternative contexts. Table 6 reports the results for the following model:

\[ \Delta O_t = a + b_1 E_t + b_2 \text{NONPA}_t + b_3 E \cdot \text{NONPA}_t + \Sigma(b_4 \Delta O_{t-1}) + e_t \]  

(2)

where NONPA is a dummy variable that equals 1 when a country lacks national policy autonomy, and \( E \cdot \text{NONPA} \) is an interaction term that equals 1 during electoral periods in countries lacking national policy autonomy.\(^68\) Note that for the observations when national policy autonomy is present (\( \text{NONPA} = 0 \)), equation (2) reduces to

\[ \Delta O_t = a + b_1 E_t + \Sigma(b_4 \Delta O_{t-1}) + e_t \]  

(3)

which is identical in structure to the standard PBC test in equation (1).\(^69\) In contrast, when national policy autonomy is absent (\( \text{NONPA} = 1 \)), equation (2) is transformed into

\[ \Delta O_t = (a + b_2) + (b_1 + b_3)(E \cdot \text{NONPA})_t + \Sigma(b_4 \Delta O_{t-1}) + e_t \]  

(4)

Thus the ordinary least squares (OLS) regression coefficients \( b_1 \) and \( b_1 + b_3 \) are conditional coefficients that capture the relationship between elections and unemployment in the cases where the hypothesized international constraint is absent and present, respectively. If our argument is correct that the absence of national policy autonomy decreases the likelihood that politicians will manipulate the macroeconomy for electoral purposes, we should expect \( b_1 + b_3 \) to not be significantly different from zero. In addition if PBCs exist, they are most likely to occur in cases where national policy autonomy is present. This latter argument would be supported if \( b_1 \) is negative (positive) and statistically significant in the unemployment (growth) models.

As expected, elections are more likely to be associated with macroeconomic expansions when countries possess national policy autonomy than when they do not. The conditional coefficient for the constrained period is the sum of the coefficients for \( E \) and the interaction term \( (b_1 + b_3) \). For convenience this sum is included in the lower portion of Table 6. We employ a Wald test to produce a chi-squared statistic in order to determine whether the specified combination of coefficients is significantly different from zero. Thus a negative (positive) conditional coefficient \( (b_1 + b_3) \) that is statistically significant would indicate the presence of a decreasing (increasing) relationship between elections and unemployment (growth) in the constrained period.

\(^68\) Again, coefficients for lagged dependent variables are not reported.

\(^69\) For discussions of the conditional interpretation of coefficients in interactive regression models, see Friedrich 1982; and Jaccard, Turrisi, and Wan 1990.
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Belgium</th>
<th>Finland</th>
<th>France</th>
<th>Italy</th>
<th>New Zealand</th>
<th>Norway</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta U$</td>
<td>$\Delta Y^c$</td>
<td>$\Delta U$</td>
<td>$\Delta Y^c$</td>
<td>$\Delta U$</td>
<td>$\Delta Y^c$</td>
<td>$\Delta U$</td>
</tr>
<tr>
<td>Intercept</td>
<td>$-0.003$</td>
<td>$0.015^{***}$</td>
<td>$0.019$</td>
<td>$0.015^{***}$</td>
<td>$0.014^{**}$</td>
<td>$0.017^*$</td>
<td>$0.006$</td>
</tr>
<tr>
<td>$E$</td>
<td>$(0.006)$</td>
<td>$(0.004)$</td>
<td>$(0.022)$</td>
<td>$(0.004)$</td>
<td>$(0.006)$</td>
<td>$(0.007)$</td>
<td>$(0.008)$</td>
</tr>
<tr>
<td>$E \cdot \text{NONPA}$</td>
<td>$0.007$</td>
<td>$-0.008$</td>
<td>$0.005$</td>
<td>$0.009$</td>
<td>$-0.004$</td>
<td>$-0.015^*$</td>
<td>$-0.008$</td>
</tr>
<tr>
<td>$\text{NONPA}$</td>
<td>$(0.011)$</td>
<td>$(0.006)$</td>
<td>$(0.040)$</td>
<td>$(0.008)$</td>
<td>$(0.012)$</td>
<td>$(0.010)$</td>
<td>$(0.017)$</td>
</tr>
<tr>
<td>$E \cdot \text{NONPA}$</td>
<td>$-0.009$</td>
<td>$-0.014^{***}$</td>
<td>$-0.006$</td>
<td>$-0.0038$</td>
<td>$-0.011$</td>
<td>$-0.013^{**}$</td>
<td>$0.007$</td>
</tr>
<tr>
<td>$b_1 + b_3$</td>
<td>$(0.008)$</td>
<td>$(0.005)$</td>
<td>$(0.031)$</td>
<td>$(0.006)$</td>
<td>$(0.009)$</td>
<td>$(0.007)$</td>
<td>$(0.013)$</td>
</tr>
</tbody>
</table>

| Wald $\chi^2$     | $1.608$ | $3.515^*$ | $0.636$ | $0.070$ | $0.168$ | $0.113$ | $0.124$ | $1.454$ | $0.422$ | $1.971$ | $0.774$ | $1.176$ | $1.524$ |
| $N$                | $114$ | $114$ | $113$ | $113$ | $113$ | $113$ | $113$ | $113$ | $113$ | $113$ | $113$ | $105$ | $113$ |
| $R^2$              | $0.608$ | $0.073$ | $0.061$ | $0.078$ | $0.431$ | $0.108$ | $0.038$ | $0.046$ | $0.267$ | $0.250$ | $0.152$ | $0.058$ | $0.130$ |

---

### Notes:
- **OLS estimates and standard errors (in parentheses).** Lagged dependent variables are not reported.
- **The null hypothesis of the Wald statistic is $b_1 + b_3 = 0$.**
- **White heteroskedasticity-consistent covariance matrix used to calculate standard errors.**
- **Includes second-period lagged dependent variable.**
- $***p < .005$.
- $**p < .01$.
- $*p < .05$.
- $p < .10$. One-tailed test for $E$ and $E \cdot \text{NONPA}$; two-tailed otherwise.
Since this is true in only one of the seven countries in Table 6 (the growth equation for Belgium), the evidence indicates that opportunistic behavior is rare in the absence of national policy autonomy. In contrast at least some evidence indicates a PBC during the unconstrained period ($E$ is significant with the hypothesized sign) in five of the seven countries in this subset. Although the evidence is ambiguous that failing to satisfy the Mundell-Fleming conditions for national policy autonomy constrains opportunistic behavior of politicians, the results in Table 6 suggest that the international constraint may partially explain the rarity of PBCs in these cases.

As noted earlier, Great Britain was the only case to experience a change in central bank independence sufficiently large to place it above the sample median for one part of the period and below the sample for another. The value for Great Britain on the Cukierman, Webb, and Neyapti index is 0.43 for the period 1960–71 and 0.27 thereafter. Although strong anecdotal evidence indicates that the Bank of England was subservient to the Chancellor of the Exchequer in the postwar period, the Cukierman, Webb, and Neyapti index may be telling us something that the common wisdom has missed. Accordingly we test the PBC hypothesis both in its institutionally naive variant (which implies that central bank independence was not a constraint during the observed period) and in a context-dependent model analogous to the one specified in equation (2), except that the hypothesized constraint on PBC behavior is central bank independence above the sample median rather than a loss of national policy autonomy.

The results of these tests, which are presented in Table 7, provide no evidence of a PBC, context-dependent or otherwise, in the British case. This result has two possible explanations: either the Cukierman, Webb, and Neyapti index for the 1960s correctly identifies levels of central bank independence sufficiently high to constrain PBC behavior both in this period and the years after; or the index exaggerates the degree of independence in the British case, and the absence of a PBC remains to be explained.

We conducted tests for a PBC in eighteen OECD countries. Of these, only eight (Japan, Spain, Belgium, France, Italy, New Zealand, Norway, and Sweden) exhibited any evidence of a PBC. A PBC argument that failed to recognize the potential institutional constraints on policymaker behavior would have predicted PBCs in all eighteen countries and would have produced anomalous findings in fourteen of those.

Our institutional approach, in contrast, argues that there is a class of countries in which we should not expect PBCs to occur. None of the eight countries in which the central bank is highly independent demonstrated any evidence of a PBC. Five of the seven countries with dependent central banks that experienced a loss of national

70. We conducted tests of the contextually naive PBC hypothesis in the seven cases in Table 11 and found evidence of a PBC only in Norway and Sweden.

71. Kenneth Schultz argues that a refinement of the opportunistic PBC hypothesis, which is sensitive to the popularity of incumbents, fits the data on real transfer payments in Great Britain; Schultz 1995.

72. Five of the countries in which we found evidence of a PBC exhibited context specific cycles (see Table 6). When the noncontext-specific model was applied to the seven countries in Table 6 that experienced shifting institutional constraints, evidence for a PBC was found in two countries (Sweden and Norway). When these two countries are added to Japan and Spain, a total of four of our eighteen countries have PBCs perceptible in the institutionless model.
policy autonomy in the post–Bretton Wood era demonstrated some signs of a context-dependent PBC. Both of the countries that experienced neither of the hypothesized institutional constraints exhibited evidence of a PBC. Thus three of the eighteen countries examined can be considered anomalies.

If the current argument is correct, the lack of context-dependent cycles in Belgium, Finland, and Britain is surprising. These anomalies can be divided into two categories: cases where PBCs occur when the institutional context suggests they should not, and cases where they do not occur despite a permissive institutional setting. Belgium is the only case that falls into the former category—some evidence indicates a cycle during the period when the international constraint was present. In Finland and Britain we find no evidence of a PBC, despite the expectation of a context-dependent one.73

### Time-Series Cross-Sectional Tests

Although the country-specific tests have been suggestive, they are also limited by relatively modest degrees of freedom. This problem was most severe in the cases where countries experienced changing institutional constraints—in some cases data were available for only one election during the before-capital-mobility period. We

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73. From the standpoint of the argument that PBCs should only occur in the absence of the relevant institutional constraints (that is, the institutional constraints are likely to be sufficient to prevent PBCs), only the first categories of anomalies are relevant. The current argument is challenged by anomalies in the latter category only to the extent that we have claimed to have identified all of the relevant constraints on PBC behavior.
address this problem of limited degrees of freedom by using a time-series cross-section research design combined with the dummy variable interactive model used earlier. This design allows us to directly examine the effects of cross-national differences in the relevant institutional arrangements.

Table 8 reports OLS regression results for a time-series cross-sectional test that is identical to equation (2), except that a higher order lag structure and fixed-effect country dummy variables were included. Models I and II differ only in the way they define the hypothesized constraints on PBC behavior. Model I defines the constraint on political business behavior in terms of high levels of central bank independence. As expected there is no evidence of a PBC in cases where central bank independence is present (the sign on the conditional coefficient for the constrained case \( b_1 + b_3 \) is the opposite of what is predicted by the opportunistic hypothesis, and the associated Wald statistics are not statistically significant). In contrast, there is some evidence of a PBC in those cases where central bank independence is absent (the coefficient for \( E \) is significant with the hypothesized sign). Model II allows us to examine the independent effects of a loss of national policy autonomy on the existence of PBCs within the sample. As expected, PBCs do not occur in those cases where the Mundell-Fleming conditions for national monetary policy autonomy are not met (the sign on the conditional coefficient for the constrained case \( b_1 + b_3 \) is the opposite of what the opportunistic hypothesis predicts in the unemployment equation, and the associated Wald statistics are not statistically significant in either case). In addition there is evidence of PBCs in those cases where monetary policy autonomy exists (\( E \) is statistically significant with the hypothesized sign).

Although Models I and II indicate that both central bank independence and the loss of national policy autonomy independently constrain PBC behavior, Model III examines the combined effects of these constraints by estimating the following:

\[
\Delta O_t = a + b_1 E_t + b_2 CBI_t + b_3 NONPA_t + b_4 E \cdot CBI_t + b_5 E \cdot NONPA_t \\
+ b_6 CBI \cdot NONPA_t + b_7 E \cdot CBI \cdot NONPA_t + \Sigma(b_j \Delta O_{t-j}) + e_t \quad (5)
\]

This specification allows us to test the opportunistic hypothesis in each of the logically possible institutional combinations by calculating the conditional coefficients for each institutional combination. For example, the conditional coefficient for the effect of elections on unemployment in the presence of both constraints can be deter-

74. Examination of autocorrelation and partial autocorrelation functions revealed higher order autoregressive processes in the time-series cross-section unemployment data as well as violations of the assumption of the OLS assumption of nonequal variance in the error term. We used a nine-period lag for the time-series cross-sectional unemployment tests and a one-period lag for industrial production. These specifications of the pooled models passed the Breusch-Godfrey Lagrange multiplier test for autocorrelation at the standard level of significance. We used a White heteroskedasticity-consistency covariance matrix to calculate standard errors in all pooled models.

75. Thus CBI = 1 if a country’s score on the Cukierman, Webb, and Neyapti index is above the sample median.
mined by substituting the appropriate values of the institutional variables into equation (5):

\[
\Delta U_t = a + b_1 E_t + b_2(1) + b_3(1) + b_4[E \cdot (1)] + b_5[E \cdot (1)] \\
+ b_6(1) + b_7[E \cdot (1) \cdot (1)] + \Sigma(b_j \Delta O_{t-j}) + e_t 
\]  

(6)

which simplifies to

\[
\Delta U_t = a + b_1 E_t + b_2 + b_3 + b_4 E + b_5 E + b_6 + b_7 E + \Sigma(b_j \Delta O_{t-j}) + e_t 
\]  

(7)

By successive substitution of the appropriate value for \(E\), equation (7) can be used to generate a test of the PBC hypothesis when both constraints are present. Specifically,
the opportunistic hypothesis maintains that change in unemployment should be lower during electoral (left-hand side of equation [8]) than during nonelectoral (right-hand side of equation [8]) periods:

\[ b_1(1) + b_2 + b_3 + b_4(1) + b_5(1) + b_6 + b_7(1) < b_1(0) \]

\[ + b_2 + b_3 + b_4(0) + b_5(0) + b_6 + b_7(0) \]

which simplifies to \( b_1 + b_4 + b_5 + b_7 < 0 \). By analogous reasoning the test for the opportunistic hypothesis for the class of cases where only the domestic constraint is present is \( b_1 + b_4 < 0 \), and where only the international constraint is present the test is \( b_1 + b_5 < 0 \). Finally, the test for the opportunistic hypothesis where neither constraint is present is simply \( b_1 < 0 \). The conditional coefficients for the growth models are identical except that each coefficient is hypothesized to be greater than zero.

Table 9 reports the conditional coefficients for each of the four possible institutional combinations along with the Wald test statistic for the null hypothesis that conditional coefficients equal zero. Note that the conditional coefficients indicate evidence of opportunistic cycles in the unconstrained case but not in any of the constrained cases. In addition the conditional electoral coefficient departs most from the expectation of the opportunistic hypothesis in the presence of both constraints—where the conditional coefficient has the wrong sign and, in the case of the unemployment model, nears standard levels of statistical significance. These results suggest that institutional context modifies the effect of elections on macroeconomic out-

**TABLE 9. The conditional effect of elections on unemployment and growth under various institutional constraints**

<table>
<thead>
<tr>
<th>Institutional constraint</th>
<th>Unemployment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neither</td>
<td>-0.0202*</td>
<td>0.0068**</td>
</tr>
<tr>
<td></td>
<td>(6.066)</td>
<td>(8.163)</td>
</tr>
<tr>
<td>International only</td>
<td>-0.0127</td>
<td>0.0015</td>
</tr>
<tr>
<td></td>
<td>(0.521)</td>
<td>(0.328)</td>
</tr>
<tr>
<td>Domestic only</td>
<td>0.0012</td>
<td>0.0014</td>
</tr>
<tr>
<td></td>
<td>(0.0245)</td>
<td>(0.2295)</td>
</tr>
<tr>
<td>Both</td>
<td>0.0207</td>
<td>-0.0014</td>
</tr>
<tr>
<td></td>
<td>(2.590)</td>
<td>(0.1530)</td>
</tr>
</tbody>
</table>

*Conditional coefficients calculated from model III in Table 8. Numbers in parentheses are Wald \( \chi^2 \) statistics for null hypothesis that conditional coefficients equal zero.  
**\( p < .005 \).  
*\( p < .05 \). Two-tailed test.
comes in important ways—the presence of either constraint reduces the likelihood of opportunistic behavior.

Table 10 reports the results of a set of regressions that use continuous measures of both monetary policy autonomy and central bank independence. The continuous measure of central bank independence used here is the Cukierman, Webb, and Neyapti index. Models Ic and IIc are identical to models I and II reported in Table 8 except that they use continuous modifying variables.

As discussed earlier the coefficient for the election variable conveys the relationship between elections and macroeconomic outcomes when the institutional variable modifying the relationship equals zero. The conditional coefficient for nonzero values of the modifying value in models Ic and IIc is given by $b_1 + b_2X_2$, where $X_2$ is the

76. We constructed the continuous measure of monetary policy autonomy by multiplying the reciprocal of the cross-sectional savings–investment coefficients in Figure 1 by a dummy variable that equals 1 for each quarter in which the country maintained a fixed exchange rate (see Table 2). Hence constraints on national policy autonomy increase as this measure approaches 1 and are absent if this variable equals zero. An alternative continuous measure of monetary policy autonomy based on country-specific restrictions on capital movements was also constructed and an analogous set of regressions was specified. Results were qualitatively similar to those reported for model IIc in Table 10.

### Table 10. The context-specific effects of elections on unemployment and growth using continuous measures of institutional constraints

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Model Ic</th>
<th>Model IIc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta U$</td>
<td>$\Delta Y^b$</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.0149</td>
<td>-0.0068</td>
</tr>
<tr>
<td></td>
<td>(0.0373)</td>
<td>(0.0130)</td>
</tr>
<tr>
<td>$E$</td>
<td>-0.0267**</td>
<td>0.0066*</td>
</tr>
<tr>
<td></td>
<td>(0.0135)</td>
<td>(0.0028)</td>
</tr>
<tr>
<td>$CBILEG$</td>
<td>-0.0053</td>
<td>0.0322</td>
</tr>
<tr>
<td></td>
<td>(0.0763)</td>
<td>(0.0274)</td>
</tr>
<tr>
<td>$CNONPA$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$E \cdot CBILEG$</td>
<td>0.0603**</td>
<td>-0.0134*</td>
</tr>
<tr>
<td></td>
<td>(0.0305)</td>
<td>(0.0073)</td>
</tr>
<tr>
<td>$E \cdot CNONPA$</td>
<td>0.0501*</td>
<td>0.0111</td>
</tr>
<tr>
<td></td>
<td>(0.0257)</td>
<td>(0.0107)</td>
</tr>
<tr>
<td>$N$</td>
<td>1765</td>
<td>1682</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.2489</td>
<td>0.026</td>
</tr>
</tbody>
</table>

OLS estimates and White heteroskedasticity standard errors (in parentheses). Lagged dependent variables are not reported.

Excludes Denmark and New Zealand.

| p | p<.005 |
| p<.05 |
| p<.01 |
| p<.10 | One-tailed test used for coefficients involving $E$; two-tailed otherwise.
The value of the modifying variable in question (CBILEG and CNONPA in models Ic and IIc, respectively). Table 11 reports the conditional coefficients derived from model Ic for five possible values of CBILEG that correspond to the values observed in a handful of countries in our sample. Thus on average elections are predicted to produce a drop in unemployment of 1.7 percent if a country has a central bank as independent as Norway’s. The drop in unemployment associated with the occurrence of elections in countries with a central bank as independent as France or Sweden’s is still significantly different from zero but smaller in magnitude. In contrast the conditional coefficients produced by higher central bank independence scores (such as those found in Australia, the United States, and Germany) suggest a lack of evidence for PBCs in these cases. Note that the critical degree of central bank independence lies between 0.29 and 0.36—near the sample median (0.31). We observe a similar pattern in the conditional coefficients for the growth in output model, except that the threshold of constraint seems to be higher—PBCs are marginally evident with central bank independence scores as high as the sample mean (0.36).

Table 12 reports the conditional coefficients for model IIc for various degrees of national policy autonomy, ranging from the unconstrained case (flexible exchange rates) to countries that pursued fixed exchange rates in an environment of highly mobile capital (the 1984 value for the systemic measure of capital mobility is used for illustrative purposes). As was the case with central bank independence, the magnitude of the conditional electoral coefficients decreases as the degree of international constraint increases. However, since none of the conditional coefficients is statistically significant, the results in Table 11 are more tentative than those reported.

<table>
<thead>
<tr>
<th>Degree of central bank independence</th>
<th>Unemployment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.16 (as in Norway)</td>
<td>−0.0170**</td>
<td>0.0044**</td>
</tr>
<tr>
<td></td>
<td>(0.0092)</td>
<td>(0.0019)</td>
</tr>
<tr>
<td>0.29 (as in Sweden, France)</td>
<td>−0.0092*</td>
<td>0.0026**</td>
</tr>
<tr>
<td></td>
<td>(0.0063)</td>
<td>(0.0014)</td>
</tr>
<tr>
<td>0.36 (as in Australia)</td>
<td>−0.0050</td>
<td>0.0017*</td>
</tr>
<tr>
<td></td>
<td>(0.0055)</td>
<td>(0.00139)</td>
</tr>
<tr>
<td>0.49 (as in United States)</td>
<td>0.0028</td>
<td>0.00003</td>
</tr>
<tr>
<td></td>
<td>(0.0058)</td>
<td>(0.0018)</td>
</tr>
<tr>
<td>0.69 (as in Germany)</td>
<td>0.0149</td>
<td>−0.0027</td>
</tr>
<tr>
<td></td>
<td>(0.0100)</td>
<td>(0.0029)</td>
</tr>
</tbody>
</table>

*a Conditional coefficients calculated from model Ic in Table 10. Numbers in parentheses are conditional standard errors.
**p < .05.
*p < .10. One-tailed test.
elsewhere in this article. The strongest statement supported by the use of the continuous measure of constraints on national policy is that in the absence of national monetary policy autonomy there is no evidence of PBCs.

As was the case with the tests employing discrete modifying variables, the continuous measure tests lend support to the argument that opportunistic cycles decrease as central bank independence increases. As noted earlier the evidence from the tests employing the continuous measure of constraints on national policy autonomy is less clear-cut, perhaps because of the noted inadequacies of existing measures of capital mobility.

Conclusions

Existing models of opportunistic PBCs assume that elected officials can control short-term macroeconomic outcomes in politically advantageous ways. The recent changes in the international system combined with cross-national differences in institutional arrangements make this assumption difficult to sustain in many cases. Our results suggest that countries that maintain fixed exchange rates in an environment of highly mobile capital or highly independent central banks are less likely to experience opportunistic PBCs. Thus attention to cross-national differences in institutions reveals a link between elections and macroeconomic variables. This finding is surprising in light of the rational expectations critique of the traditional PBC model. Although the rational expectations approach contributes to our understanding of the strategic interaction between policymaker and voters by focusing on the way these actors formulate their beliefs, our findings suggest that one reason standard models of the political control of the economy have not received empirical support is that they ignore the

<table>
<thead>
<tr>
<th>Degree of international constraint</th>
<th>Unemployment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (Flexible exchange rates)</td>
<td>-0.0055</td>
<td>0.0026</td>
</tr>
<tr>
<td>(0.0070)</td>
<td>(0.0022)</td>
<td></td>
</tr>
<tr>
<td>0.072 (Fixed rates in 1964)</td>
<td>-0.0049</td>
<td>0.0022</td>
</tr>
<tr>
<td>(0.0061)</td>
<td>(0.0017)</td>
<td></td>
</tr>
<tr>
<td>0.139 (Fixed rates in 1974)</td>
<td>-0.0043</td>
<td>0.0017</td>
</tr>
<tr>
<td>(0.0057)</td>
<td>(0.0015)</td>
<td></td>
</tr>
<tr>
<td>0.368 (Fixed rates in 1984)</td>
<td>-0.0023</td>
<td>0.0003</td>
</tr>
<tr>
<td>(0.0076)</td>
<td>(0.0027)</td>
<td></td>
</tr>
</tbody>
</table>

*Conditional coefficients are calculated from model IIc in Table 10. Numbers in parentheses are conditional standard errors.

TABLE 12. The conditional effect of elections on unemployment and growth for various levels of national policy autonomy.
institutions that structure the strategic choices of elected politicians. Domestic institutions, including the structure of the central bank, help determine which actions are possible and which strategic alternatives are desirable. Since there are substantial cross-national differences in these institutional structures, deductive models that attempt to explain the dynamics of electoral competition need to pay close attention to the way these institutions shape the institutional environment in which politicians operate. Failure to do so will lead to models with limited empirical usefulness. This study has singled out the degree of central bank independence, but other domestic institutional structures are also likely to matter. These might include the structure of party competition, the relationship between the executive and legislature, and the nature of the electoral system. Furthermore, the institutionalist approach to opportunistic cycles used here can be fruitfully combined with a rational expectations approach or applied to partisan cycles as well.

Based on the evidence in this study we also suggest that traditional PBC models can and should be extended to include insights from open economy macroeconomics. Obviously, international factors influence the dynamics of domestic political behavior. Researchers have examined, for instance, the ways in which international economic conditions influence the effects of partisan competition on macroeconomic performance. Other researchers have examined the way international economic factors influence attempts by societal groups to shape policy outcomes. These insights have not made their way into formal models that attempt to explain the conditions under which politicians will manipulate the economy for electoral purposes. The evidence in this study suggests that characteristics of the international system, such as the degree of capital mobility, combine with foreign economic policy decisions, such as the commitment to a fixed exchange rate, in ways that shape the incentive structures of incumbents responsible for macroeconomic policy.

Broad statements about the effects of increased capital mobility on the political control of industrial economies and the sovereignty of nation-states should be critically viewed and carefully qualified. If these effects stem from the loss of national policy autonomy resulting from an increase in capital mobility, recognizing how these effects may be mediated by national-level policy decisions and domestic institutional arrangements is important. For example, the posited link between increased economic interdependence and macroeconomic policy convergence is, in part, mediated by national decisions. National policy autonomy, as evidenced by the existence of PBCs, is feasible in a financially integrated world—especially if national decision makers are willing to forfeit a degree of exchange-rate stability. Although growing financial integration has facilitated cross-national monetary policy convergence and made the political control of the economy more difficult, it has not made convergence automatic, nor has it made political control impossible. The recent increase in the level of international capital mobility constitutes a change, with historic consequences, in the structure of the international system. This study suggests, however, that the consequences of this change are not the same for every state in the system.

77. See Alt 1985; and Garrett and Lange 1986.
References


