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The Politics of the Political Business Cycle

KENNETH A. SCHULTZ*

Existing models of the political business cycle have performed poorly in empirical tests because they have misspecified the interests of their primary actors – the incumbent politicians. While these models assume that governments face similar incentives to manipulate the economy at each election, governments' incentives can in fact vary from election to election depending upon their political needs at the time. The more likely the government is to be re-elected, the less it can gain by inducing cycles that are costly because of their impact on both the government's reputation and future macroeconomic performance. The degree to which the government manipulates the economy should thus be negatively correlated with its political security going into the election.

This prediction is tested by examining transfer payments in Great Britain, 1961–92. While a traditional model that is insensitive to the government's political needs finds no evidence of politically-motivated manipulations, a model which takes these factors into account reveals a robust, and at times sizeable, electoral-economic cycle.

I. INTRODUCTION

The theory of political business cycles has received a great deal of attention since the mid-1970s, when economists and political scientists formalized an idea that had been popular in non-academic circles for some time.[1] It seems safe to say, though, that the idea owes its longevity much more to its intuitive plausibility than to its empirical track record. The theory rests on rather straightforward reasoning: incumbent politicians want to be re-elected; their electoral fortunes depend heavily upon how well the economy is doing at the time of the election; and they have at their disposal certain policy instruments that at least partially determine macroeconomic performance. From these premises, it requires no great leap of faith to conclude that governments will attempt to manipulate the economy prior to elections in order to secure favourable outcomes.

Unfortunately, while the general logic behind the theory is quite persuasive, the empirical evidence for electoral-economic cycles is spotty at best. Early

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[1] The seminal work in this literature is William D. Nordhaus, 'The Political Business Cycle', *Review of Economic Studies*, 62 (1975), 169–90. Most scholars, though, trace the political business cycle theory to Joseph Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistical Analysis* (New York: McGraw Hill, 1939) and M. Kalecki, 'Political Aspects of Full Employment', *Political Quarterly*, 14 (1943), 322–31.

formulations of the theory suggested that governments would take advantage of the short-term Phillips curve to spur employment before elections at the cost of higher post-election inflation.[2] Efforts to find the predicted cycles in inflation and unemployment, however, were largely unsuccessful.[3] A second generation of theories, recognizing the empirical shortcomings of the earlier approach and inspired by the rational expectations revolution in economics, were more sceptical about the government's ability to influence the macroeconomy in this way. Nevertheless, these models still predicted politically-motivated efforts to manipulate economic policy; accordingly, they shifted the empirical focus away from macroeconomic outcomes towards the actual implementation of monetary and fiscal policy.[4] These studies, though more favourable to the theory, have hardly been conclusive.[5]

Not surprisingly, the mixed track record of the political business cycle model has led some writers to abandon the theory altogether. These theorists claim that, for a variety of reasons, governments either cannot or will not manipulate the economy for political gain.[6] Such a conclusion, however, is hard to reconcile with the intuitive plausibility of the model and with the widespread belief of most non-academic observers that governments do, in fact, behave in this way. Clearly, what is needed is a reformulation of the theory which more fully captures the politico-economic processes that are at work.

The purpose of this article is to suggest a way in which the theory of political business cycles might be improved. Its main contention is that existing models are misspecified because they have inadequately conceptualized the interests of their primary actors – the incumbent politicians. In particular, they have failed to appreciate that governments' incentives are defined by the nature of political competition. Indeed, while the literature has become more refined in its assumptions about economics, there has been very little effort critically to re-examine its assumptions about politics. Today's rational expectations models have been built upon increasingly sophisticated ideas about the behaviour of voters and economic actors, but they have neglected to apply the same sophistication in dealing with the interests and actions of politicians.

I argue that the primary failing of most existing models is that they implicitly

[2] Nordhaus, 'The Political Business Cycle'; Duncan C. McRae, 'A Political Model of the Business Cycle', *Journal of Political Economy*, 85 (1977), 239–63; Edward R. Tufte, *Political Control of the Economy* (Princeton, NJ: Princeton University Press, 1978).

[3] For a review of the empirical literature and a comprehensive test, see Alberto Alesina, Gerald D. Cohen and Nouriel Roubini, *Macroeconomic Policy and Elections in OECD Democracies*, NBER Working Paper, no. 3830 (Cambridge, Mass.: National Bureau of Economic Research, 1991).

[4] Key works in this tradition include Alex Cukierman and Allan H. Meltzer, 'A Positive Theory of Discretionary Policy, the Cost of Government, and the Benefits of a Constitution', *Economic Inquiry*, 24 (1986), 367–88, and Kenneth Rogoff and Anne Sibert, 'Equilibrium Political Budget Cycles', *Review of Economic Studies*, 55 (1988), 1–16.

[5] Alesina, Cohen, and Roubini, *Macroeconomic Policy and Elections in OECD Democracies*.

[6] David Golden and James Poterba, 'The Price of Popularity: The Political Business Cycle Re-examined', *American Journal of Political Science*, 24 (1980), 696–714. James E. Alt and Alec Chrystal, *Political Economics* (Berkeley: University of California Press, 1983).

assume that governments face similar incentives to manipulate the economy at each election. Investigators employing these approaches thus expect to find policy cycles which are both uniform and systematic. In fact, however, the incentives for governments to engineer economic cycles can vary greatly from one election to the next depending upon their political needs at the time. If the government goes into the election relatively sure that it will be re-elected, it has much less incentive to manipulate the economy than when its prospects of re-election are weaker. In other words, the marginal benefit of winning additional votes, and hence the marginal benefit of inducing an economic cycle, decreases the safer is the government's position. We would thus expect that the magnitude of the policy cycle will not be constant, but will instead vary from one election to the next as a function of the incumbent's political 'security'. This is especially true given that policy manipulations entail substantial costs that governments would prefer to avoid if possible. These costs arise because such behaviour can potentially damage the governing party's reputation and lead to poor macroeconomic performance in the future.

The main hypothesis which emerges from this analysis is that pre-election manipulations of economic policy will vary inversely with the government's security going into the election, as measured by popular opinion polls. When the government is high in the polls, it can forgo policy manipulations and thereby avoid the attendant costs; when the government is doing poorly in the polls, on the other hand, it must stimulate the economy in order to stay in power. This hypothesis may appear to be uncontroversial, and indeed one might call it a 'conventional wisdom' of the political business cycle literature. Nevertheless, like much conventional wisdom, this idea has seldom been explored logically or tested empirically. This article seeks to do both.

The rest of this article is divided into three parts. Section II analyses the nature of the incentives surrounding economic policy manipulations and shows that electoral-economic cycles should occur only when and to the degree that they are needed. Section III tests the hypothesis that economic policy is responsive to the political needs of the incumbent by looking at the cycle of transfer payments in Great Britain from 1961 to 1992. Section IV presents some conclusions.

II. THE POLITICAL BUSINESS CYCLE MODEL

While political business cycle models come in many different forms, all share a number of core assumptions:[7]

(1) Politicians are seeking office. That is, they care primarily about holding office and choose policies that will maximize their chances of re-election.

[7] Alt and Chrystal, *Political Economics*, p. 104.

(2) Voters have stable preferences over economic outcomes which are reflected in their voting behaviour.
(3) Elected politicians have control over policy instruments that influence macroeconomic outcomes.

The key hypothesis that emerges from these assumptions is that governments will use their control over the economy to improve their chances of re-election. Since voters have well-established preferences for high real income, high growth, low unemployment and low inflation, we should expect to see incumbents trying to deliver these outcomes prior to each election. It was from this simple logic that the literature on political business cycles was born.

This class of political business cycles is generally referred to as 'opportunistic' because of the assumption that politicians are primarily office-seeking and thus only worry about the state of the economy at election time. These cycles should be distinguished from so-called 'ideological' or 'partisan' cycles which are based on the premise that parties have different preferences over macroeconomic outcomes. It has been argued, for example, that parties of the left care more about unemployment than inflation because they tend to draw support primarily from the working class; conservative parties, on the other hand, are thought to care more about inflation since they depend on the support of business and finance.[8] Unlike opportunistic cycles, which occur immediately prior to elections, partisan cycles reflect permanent differences in the economic policy making of the various political parties. The present article deals exclusively with opportunistic cycles.

While the core assumptions of the political business cycle theory seem relatively straightforward, critics have raised numerous objections to this simple formulation. Few would deny that politicians are primarily interested in retaining office, but doubts have been raised regarding the behaviour of voters and the degree of control which politicians actually possess over the economy. It has often been noted, for example, that decisions regarding monetary and fiscal policy are not implemented directly by governments, but rather by other actors whose interests may be quite different from those of elected officials. Government spending and tax collection are subject to the influences of a large number of bureaucratic actors, while decisions about the money supply and interest rates generally fall under the purview of at least partially independent central bankers.[9]

There has also been considerable controversy regarding the decision-making

[8] Douglas A. Hibbs, Jr., 'Political Parties and Macroeconomic Policy', *American Political Science Review*, 71 (1977), 1467–87; Alberto Alesina, 'Macroeconomic Policy in a Two-Party System as a Repeated Game', *Quarterly Journal of Economics*, 102 (1987), 651–78.

[9] See Kerry Schott's comments appended to Alec Chrystal and James E. Alt, 'Public Sector Behaviour: The Status of the Political Business Cycle', in D. Currie, R. Nobay and D. Peal, eds, *Macroeconomic Analysis* (London: Croom Helm, 1981), 353–82, p. 379; Alberto Alesina, 'Macroeconomics and Politics', in Stanley Fischer, ed., *NBER Macroeconomic Annual 1988* (Cambridge, Mass.: MIT Press, 1988), pp. 38–45.

faculties of the electorate. The original models of Nordhaus and Tufte assumed that voters selected candidates based on a retrospective evaluation of their performance, heavily discounted to favour more recent experiences. As a result, these voters were easily fooled by politicians, who could deliver high growth and low unemployment right before the election and never face the costs of the inevitable post-election inflation, which would be forgotten by the end of their term. The rational expectations revolution in economics, however, led later theorists to reject this image of myopic voters. In their stead were placed a new breed of ultra-rational voters who based their selection of candidates on rationally calculated expectations of future performance. This modification led to a new set of predictions about political business cycles which saw politicians much more constrained in their ability to influence the economy and their electoral chances.[10]

While these objections no doubt have some validity, I contend that a more serious oversight of the political business cycle model lies in its treatment of the first, and least controversial, premise. This is not to say that previous investigators have been wrong in assuming that politicians are primarily office-seeking. Rather, they have failed to go beyond this simple assumption to a more complete analysis of the decision calculus of governments. This is indeed a serious problem because unless the interests of the main actors in the model – the governments – are understood, any conclusions about their expected behaviour are bound to be flawed. Seen in this light, objections about institutional constraints and the behaviour of voters are second-order concerns.

I argue that traditional models of the political business cycle have misconstrued governments' interests by implicitly assuming that their incentives to manipulate the economy do not vary greatly from one election to the next. The key explanatory variable in these models is the presence or absence of an election, and there is generally no way to account for possible differences between elections.[11] As a result, if policy manipulations occur prior to some elections but not others, these models would be unable to detect this variation and would very likely lead the investigator to reject the policy cycle hypothesis. In other words, this specification can only be justified if one assumes that policy manipulations will not vary much from one election to the next.

Is such an assumption warranted? To answer this, we need to consider the optimization problem the government faces at each election. Decision theory tells us that governments will choose a level of policy manipulation such that the benefit of a marginal increase in that level is at least equal to the costs of such an increase. Given this, we can identify exactly what conditions would have

[10] For a discussion of the impact of rational expectations on the political business cycle theory, see William D. Nordhaus, *Alternative Approaches to the Political Business Cycle*, Brookings Papers on Economic Activity, no. 2 (Washington, DC: The Brookings Institution, 1989), pp. 1–68; and Alesina, 'Macroeconomics and Politics'.

[11] See Alesina, Cohen and Roubini, *Macroeconomic Policy and Elections in OECD Democracies*, and the citations contained therein.

to hold for the level of manipulation to be the same at each election. The first possibility is that the marginal benefits and costs of economic stimulation are a function of variables that do not change appreciably from one election to the next. In that case, the decision calculus would produce the same optimal level of manipulation each time. The second possibility is that there are no costs to engineering a pre-election boom. In that case, even if the marginal benefits varied from one election to the next, governments would have no reason to forgo policies that could only increase their expected payoff. Consequently, we would expect policy manipulations to reach some maximum feasible level at each election.

It is unreasonable, however, to assume that either of these conditions holds in general. First, the marginal benefits of economic stimulation depend heavily upon the governments' political needs going into each election. The tighter the electoral competition, the higher are the marginal benefits from policy manipulation. Secondly, there are non-zero costs associated with this kind of behaviour. These arise from the reputational risks involved and from the deleterious economic effects of opportunistic policies. I will expand on each of these points in turn.

Marginal Benefits

The key benefit which governments derive from pre-election policy manipulations, and the sole reason they engage in such activity, arises from the increase in the probability of re-election which presumably results from delivering economic outcomes the voters find desirable. In essence, governments use their control over economic policy instruments to 'buy' additional votes. The benefit which they derive from those additional votes is not constant, however, but rather a function of how many votes they can already count upon. After all, while the government might like to win every vote, it does not need to in order to satisfy its main goal: re-election. In most cases, a simple majority is all that is necessary, and while a landslide is always nice, there can be little doubt that incumbents place primary importance on achieving the majority needed to retain office. Thus, for example, if the government can carry out a policy that will buy it an additional 5 per cent of the vote, that 5 per cent will be much more valuable to a government which expects 46 per cent of the vote than to a government which already expects 60 per cent of the vote, assuming a simple majority rule. This is not to say that the latter government will not attempt to buy those votes; I am simply arguing that the payoff that the government derives from the same set of votes is much greater in the first case.

We can thus see that the law of diminishing marginal returns holds in this situation. The marginal benefit of winning additional votes through economic policy manipulation decreases with the number of votes the incumbent can already count upon. Several exogenous factors influence that latter figure: the overall state of the economy, foreign policy events, even the personal popularity of the leadership. Together, these factors will determine how secure the

incumbent is going into the election and, thereby, the benefit the government can derive from policy manipulations.

The important thing to notice, then, is that there is no reason to believe that governments face the same incentive structure at each election. Governments generally go into each election with very different political needs. If, for example, the economy is doing well on its own, or if the country just had a major foreign policy victory, or simply if the government is very popular for other reasons, the incumbents are likely to have a high probability of re-election and can thus derive little additional benefit by engineering a pre-election boom. On the other hand, if the government is unpopular in the run-up to an election, it can potentially increase its expected payoff a great deal through policy manipulations aimed at bolstering its re-election chances.

Costs

An analysis of incentives cannot focus purely on the benefit side, however, since the potential costs of this behaviour will also figure into the governments' calculations. Indeed, the conclusion that policy manipulations will vary in degree according to the political security of the government relies heavily on the assumption that such behaviour is in some way costly. If it were not, then office-seeking politicians would try to maximize their chances of re-election without regard to their political security. Even a government that was high in the polls would have no reason to forgo policy manipulations that could only increase its chances of remaining in office. In that case, we would expect to see efforts to stimulate the economy prior to each election regardless of the government's particular needs.

It is unrealistic, however, to assume that governments can costlessly fiddle with the economy for political gain. Economic policy manipulations can entail substantial costs because of their effect both on the governing party's reputation and on future macroeconomic performance.

Since elections often turn on which party is seen as a better manager of the nation's economy, governments should be reluctant to take actions that might promote a reputation of irresponsibility. Politically-motivated manipulations of economic policy can lead to charges of cynicism and opportunism by both the press and opposition parties.[12] Such charges can affect not only the current campaign, but future ones as well, since the reputational damage can lead to losses in long-term partisan support.[13] Hence, the reputational risk involved in

[12] See Alesina's comments appended to Nordhaus, *Alternative Approaches to the Political Business Cycle*, p. 53.

[13] Morris Fiorina, 'Short- and Long-term Effects of Economic Conditions on Individual Voting Decisions,' in Douglas A. Hibbs, Jr., and Heino Fassbender, eds, *Contemporary Political Economy: Studies on the Interdependence of Politics and Economics* (Amsterdam: North-Holland Publishing Company, 1981), p. 99.

policy manipulation will be likely to constrain governments to avoid this kind of behaviour unless it is absolutely necessary.

Furthermore, future economic consequences can also serve as an important disincentive to current manipulations. Stimulating the economy increases medium-term inflation and pushes out the Phillips curve describing the trade-off between inflation and unemployment.[14] As a result, a given level of unemployment will lead to higher levels of inflation, and the amplitude of the business cycle will increase. To be sure, a short-sighted government that seeks only to win the next election will not care about such long-term consequences. But as long as the government's time horizon stretches beyond the next election, this factor can become a significant consideration. Not only will the forthcoming term be plagued by higher levels of inflation, but it may also be difficult to bring price levels under control by the subsequent election. Governments concerned with maximizing their long-term payoff will thus have disincentives to pursue policies that can have lasting, deleterious effects upon the economy.

One might argue that governments could avoid the future inflationary costs of current policy manipulation simply by pursuing a disinflationary policy immediately after the election. lndeed, most original models of the political business cycles assumed governments would do precisely that: stimulate employment before the election, and then induce a mild recession right afterwards in order to bring inflation down.[15] These writers, however, seem to have overestimated the ease and effectiveness of such measures.

In the first place, this kind of behaviour only magnifies the reputational risk governments undertake when they manipulate the economy for political gain. By engineering a pre-election boom, governments already open themselves up to charges of irresponsibility and opportunism. If they then cover their tracks with a post-election bust, cruelty and extreme cynicism can be added to the list of charges. Disinflation can only be purchased with unemployment. And since a stimulatory policy will push out the Phillips curve, a return to pre-election inflation levels can only be achieved with a higher level of unemployment than prevailed prior to the initial policy manipulation. Hence, workers could find themselves worse off than they were before the election as a result of the government's opportunism. Such behaviour clearly does not help build a party's reputation as a responsible manager of the economy.

Depending upon how the initial stimulus was carried out, it may also be politically costly, if not impossible, to reverse course after the election. A fiscal stimulus before the election cannot be easily erased by fiscal belt-tightening afterwards. If, for example, the government created a new spending programme or redefined eligibility for certain benefits in order to spur demand right before the election, undoing that action might be very difficult. After all, it is politically

[14] Milton Friedman, 'The Role of Monetary Policy', *American Economic Review*, 58 (1968), 1–17.

[15] Nordhaus, 'The Political Business Cycle', pp. 184–5; Tufte, *Political Control of the Economy*, p. 27.

much easier to start a new spending programme than to get rid of one. Furthermore, scrapping the programme after the election would appear extremely cynical and would be likely to alienate whatever constituencies the programme had benefited. The other alternative, of course, would be to raise taxes or cut spending elsewhere in order to counteract the initial stimulus. Such actions are not without their own costs.

Finally, in trying to undo the inflationary effects of a pre-election stimulus, governments might do more harm to the economy than if they let the inflation remain. Artificially created booms and busts increase the volatility of the business cycle, leading to greater levels of uncertainty in the economy. As several economists have pointed out, this increased uncertainty can render businesses reluctant to make irreversible investment decisions.[16] As a result, a mild recession intended to wipe out the inflationary effects of pre-election manipulations can turn into a more serious downturn, with more serious political consequences.

Thus, there is good reason to believe that governments do face future costs to current policy manipulations. In addition to the reputational risk involved in such behaviour, governments will suffer either from the inflationary effects of the pre-election stimulus or from their attempts to disinflate after the election. Whether or not these future costs affect current decision making, of course, depends on the government's time horizon. As Frey and Ramser have argued, farsighted behaviour is especially likely when governments feel secure about their prospects in the forthcoming election. In such cases, governments can afford to worry about the longer-term consequences of their actions. On the other hand, when governments feel insecure in the current election, they can ill afford the luxury of being farsighted, and hence they discount the future quite heavily.[17]

When we add this argument to the previous point about the diminishing benefits of buying additional votes, it becomes clear that governments' incentives to manipulate the economy can vary greatly from one election to the next. When the government is safe, the potential benefits of such behaviour are small while the future costs loom large; when the government is weak, the potential benefits are great while the future costs are discounted heavily. From this, it follows logically that the degree to which a government will manipulate the economy prior to an election will vary inversely with its political security going into the election.

How, then, can we conceptualize the political security of the government? As suggested above, the simplest indicator of a government's electoral chances is its standing in public opinion polls. Since these polls directly measure relative

[16] B. S. Bernanke, 'Irreversibility, Uncertainty, and Cyclical Investment', *Quarterly Journal of Economics*, 98 (1983), 85–106; Alex Cukierman, 'The Effects of Uncertainty on Investment under Risk Neutrality', *Journal of Political Economy*, 88 (1980), 462–75.

[17] Bruno S. Frey and Hans-Jürgen Ramser, 'The Political Business Cycle: A Comment', *Review of Economic Studies*, 43 (1976), 553–5.

levels of support within the electorate, they are one of the best – and certainly the most accessible – predictors of the incumbent's re-election chances.[18] We would thus expect that politicians will consult the polls before deciding whether and how much to intervene in the economy. If, for whatever reason, they are low in the polls going into the election, they have good reason to engineer a policy cycle in hopes of bolstering their support. If, on the other hand, they find themselves high in the polls, they will see little or no need to pursue such a course. This suggests:

Hypothesis: The degree to which the government manipulates the economy prior to an election will be negatively correlated with its lead in public opinion polls at the time.[19]

Before moving on to test this hypothesis, it should be acknowledged that this is not the first study to suggest that opinion polls should be included in models of the political business cycle. That honour goes to Bruno Frey and Friedrich Schneider who wrote a series of papers in the late 1970s arguing that governments respond to their 'popularity deficit' when making economic policy decisions. In this framework, governments have some target popularity level which increases as an election nears. When the government's actual popularity falls below this target, it stimulates the economy in order to improve its ratings. When the actual popularity goes above the target, governments pursue partisan policies: labour parties boost employment, while conservative parties fight inflation.[20]

The present analysis builds on and extends this earlier work. Frey and Schneider present no explicit model of the government's decision making, relying instead on the intuitive plausibility of their approach. As a result, their ideas about the importance of opinion polls have entered the literature as a 'conventional wisdom' built upon little rigorous analysis and vulnerable to criticism. The above discussion thus improves and clarifies the logic underlying

[18] Most governments probably possess better indicators of their re-election chances than simply the aggregate poll numbers. These would include district-by-district poll numbers, and especially the party's standing in marginal districts. After all, the aggregate figures are only reliable to the extent that there is little regional variation in party support. Nevertheless, in the absence of more detailed polling figures, the national aggregate is the best indicator we have.

[19] It is important to emphasize that this inverse relationship between policy manipulation and the incumbent's lead in the polls is only predicted to hold in the period immediately preceding the election. As noted above, the model presented here depicts a purely 'opportunistic' cycle in which politicians care only about how they fare at election time. This aspect distinguishes the model from so-called 'popularity-maintenance' models which predict that governments formulating economic policy always respond to the incumbent's popularity, whether an election is near or not. See, for example, Golden and Poterba, 'The Price of Popularity'.

[20] Bruno S. Frey and Friedrich Schneider, 'An Empirical Study of Politico-Economic Interaction in the United States', *Review of Economics and Statistics*, 60 (1978), 174–83; Bruno S. Frey and Friedrich Schneider, 'A Politico-Economic Model of the United Kingdom', *Economic Journal*, 88 (1978), 243–53.

their intuition.[21] At the same time, this analysis questions Frey and Schneider's hypothesis that politically-motivated manipulations occur at all points in the electoral period. Such a conclusion seems problematic given the nature of the costs and benefits associated with this kind of behaviour. It is not at all clear that a government would pursue stimulatory policies to erase a popularity deficit that arose several years before the next election, especially given the costs involved and the meagre benefits to be gained.

The other important reason for revisiting this approach is that Frey and Schneider's methodology failed to catch on in the empirical literature on political business cycles. While their work suggested the importance of popular opinion polls, though perhaps imperfectly, few of the empirical studies that followed built on their suggestion. Instead, most relied on statistical models that were totally insensitive to such considerations.[22] For that reason alone, then, there is good justification to ask anew the question of how political competition influences electoral-economic cycles.

III. TESTING THE MODEL

This section tests the hypothesis developed above against a more traditional political business cycle model. The traditional model implicitly assumes that governments will manipulate the economy to a similar degree prior to each election. The presence or absence of an election is the key variable in explaining economic policy trends, and the existence of a politically-motivated cycle is confirmed only if the regression coefficient on that variable is correctly signed and statistically significant. However, if the conclusions of the previous section are correct – that is, if governments stimulate the economy to different degrees according to their political needs – the traditional model is unlikely to detect a politically-motivated cycle. Since the magnitude of the policy manipulation will be likely to vary from one election to the next, there is a good chance that the coefficient on the election variable will be insignificant.

This variance should become explicable only when we take into account terms which reflect the incumbents' political needs. This will be done by interacting the election variable with the government's lead in the polls. In this

[21] Golden and Poterba, for example, criticize Frey and Schneider's idea that governments only manipulate the economy when they are low in the polls. They suggest that risk-averse, vote-maximizing politicians would never forgo policy manipulations that improve their chances of victory, regardless of their current standing. The present analysis, however, suggests that Golden and Poterba's critique overlooks the costliness of this kind of behaviour. See Golden and Poterba, 'The Price of Popularity', p. 709.

[22] Indeed, the vast empirical literature on political business cycles includes only two major articles that include poll figures in their regression models (not including Frey and Schneider's original articles). These are Golden and Poterba, 'The Price of Popularity', and Manfred W. Keil, 'Is the Political Business Cycle Really Dead?', *Southern Economic Journal*, 55 (1988), 86–99. In these models, as in Frey and Schneider's, governments are thought to respond to their standing in the polls at all points in the electoral period. The present analysis differs from these in that it only predicts policy manipulations in the immediate run-up to an election.

way, it is possible to model the impact of each election *conditional* on the government's security at the time.[23]

Case Selection

This analysis focuses on government transfer payments in Great Britain from 1961 to 1992. The British case is particularly useful because the political variables of central interest here are relatively easy to operationalize. Since Britain has only two major parties, the poll lead can be readily measured as the differential between the governing party and the main opposition party.[24] In other countries where there are many contending parties and coalition governments are a common phenomenon, incumbents' political needs would be more difficult to operationalize.[25] This case is also appropriate because, in Great Britain, legislative and executive authority are not separated, as they are in the United States. We can thus avoid the potentially confounding effects of divided government. Members of Congress and the president might have very different political needs going into an election, and thus any effort to manipulate economic policy – which is subject to control by both branches – would be greatly complicated. In Great Britain, by contrast, the governing party enjoys both unified objectives and unified control.[26]

The main significant drawback to this case is that British governments, like most governments in the advanced democracies, can choose the date of the

[23] Robert J. Friedrich, 'In Defense of Multiplicative Terms in Multiple Regression Equations', *American Journal of Political Science*, 26 (1982), 797–833.

[24] This is not to deny that there has been some significant third-party activity in Great Britain, especially since the 1980s. Fortunately, third-party effects are mitigated by measuring the government's security as its *lead* in the polls over the major opposition party. The other alternative – measuring security simply as the percentage of voters who say they intend to vote for the governing party – is easily confounded by a strong third-party showing. After all, a 50 per cent support level can either mean a very close race – if the remaining 50 per cent is committed to one party – or a potential landslide – if the remaining 50 per cent is split evenly between two parties. Only by looking at the differential between the governing party's support level and that of the major opposition party can we distinguish these two cases. In the first case, the lead will be close to zero, while in the second, the lead will be 25 percentage points.

[25] The effect of coalition governments is a topic worthy of further research. The general logic laid out in this article should still be valid: that is, the magnitude of politically-motivated policy cycles should still vary with the incumbents' political needs. However, how these needs are defined is more problematic. When looking at the polls, for example, should we consider the entire coalition, the main party within the coalition, or all members of the coalition individually? As a first cut, we would probably want to analyse the coalition as a whole, positing that the partners co-operate in order to ensure their collective re-election. This approach, however, will be confounded if such co-operation does not take place and each party looks out for itself. In that case, it will be important to identify which parties control which aspects of economic policy and determine whether they can employ those instruments in such a way as to improve their individual re-election chances, such as by targeting crucial constituencies.

[26] Paul Mosely, *The Making of Economic Policy: Theory and Evidence from Britain and the United States Since 1945* (Brighton, Sussex: Wheatsheaf, 1984), chap. 3.

election. This means that the governing party has two tools for influencing electoral outcomes: it can intervene in the economy to engineer a pre-election boost, or it can wait until it is doing well in the polls and simply 'surf' on a wave of high approval ratings. In practice, governments probably do a mixture of both. Because of this, any model that looks only at economic policy instruments and treats election dates as exogenously fixed is seeing only part of the story. That said, there is no reason to believe that endogenous election timing should undermine the central hypothesis of this article. If the government calls an election because it is doing well in the polls, it probably sees little need to intervene in the economy in the run-up to the election. If the government has to call an election while it is low in the polls – because, for example, time is running out in the electoral period – it should resort to manipulation of the economy.[27] In other words, the hypothesized negative correlation between economic stimulation and political security should still hold.

The decision to analyse transfer payments is also quite straightforward. To test the hypothesis that governments manipulate the economy according to their political needs at the time of the election, it is necessary to examine a policy instrument over which elected officials have some direct control and which can influence voters in the short term.

Transfer payments have the instantaneous effect of raising real disposable income: people receive a cheque in the mail, and immediately they have more money to spend.[28] This real income effect will generally be short lived because the increase in government outlays eventually leads to inflationary pressures. Nevertheless, if the transfers can be timed properly, the income growth will take place before the election, while the inflationary effects will not be felt until afterwards. The resultant spurt in real income is electorally significant because, as numerous studies have shown, real disposable income growth is highly correlated with a government's popularity and its electoral success.[29] The effects

[27] In one case, the 1979 election, the government was forced to call an election when it lost a vote of no confidence. Because the government lost control of election timing, it may not have had a chance to prime the economy sufficiently before the election. As will be seen in Figures 1 and 2, there was a modest pre-election boost in 1979, but not one of the magnitude that might be expected given the governing party's dismal poll ratings. Unfortunately, we cannot know when the government would have called the election had it retained control. On the one hand, if it had waited until October 1979, the last possible date for the election, the pre-election quarter would have come later. On the other hand, there is some speculation that then-Prime Minister Callaghan was planning to call the election earlier, meaning that the no-confidence vote only moved the election date up by a few weeks. In that case, the pre-election quarter would have been unchanged. I have decided not to treat this election as a special case because of this ambiguity and because it does not appear to influence the results greatly. For a discussion of election timing in 1979, see Dick Leonard, 'The Election Campaign', in Howard R. Penniman, ed., *Britain at the Polls, 1979* (Washington, DC: American Enterprise Institute for Public Policy Research, 1981), pp. 95–105.

[28] Tufte, *Political Control of the Economy*, p. 29.

[29] The classic work here is Gerald H. Kramer, 'Short-Term Fluctuations in US Voting Behavior, 1896–1964', *American Political Science Review*, 66 (1973), 131–43. For findings on the relationship between real income and popularity, see Douglas A. Hibbs, Jr., R. Douglas Rivers and Nicholas

of the payments, however, need not show up in popular opinion polls. Government transfers can generally be targeted to specific, politically-important constituencies, such as veterans, workers or the elderly.[30] As a result, their beneficial effects for the government can be obscured by aggregate poll numbers. Indeed, at least one study found that transfer payments do not have an appreciable effect on the government's standing in the polls, at least in the United States.[31] Nevertheless, the absence of such direct evidence does not undermine the assertion that transfer payments can improve the government's electoral chances by swaying key constituencies to its side.

It is also possible that transfer payments, like most government spending, will stimulate short-term economic growth and thereby reduce unemployment. This effect, too, is electorally significant because of the impact of unemployment on the government's popularity. In the British case, there is some controversy regarding the correlation between unemployment and opinion polls, especially in the last decade. It has been argued that, because of structural changes in the economy and ideological shifts arising from Thatcher's tenure, voters pay little attention to unemployment figures when evaluating the incumbent party. A recent attempt to model this phenomenon, though, found no evidence that the correlation between unemployment and government popularity has disappeared in the 1980s.[32] In any event, even if we ignore the unemployment effect of transfer payments, the real income effect would still provide sufficient reason for governments to consider transfers an effective instrument for increasing their re-election chances.[33]

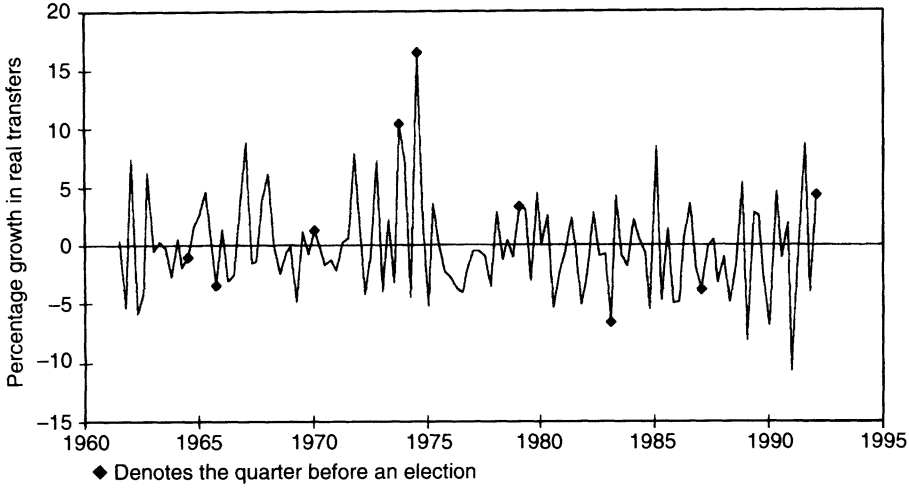
(F'note continued)
Vasilatos, 'On the Demand for Economic Outcomes: Macroeconomic Performance and Mass Political Support in the United States, Great Britain, and Germany', *Journal of Politics*, 42 (1982), 426–62.

[30] Because transfers can be targeted to specific constituencies, there may be systematic partisan differences in the kinds of benefits each party manipulates. The Labour party, for example, is more likely to manipulate unemployment benefits since they go directly to its main support groups. Conservative governments, on the other hand, might choose to increase pensions or child benefits. The actual pattern depends, of course, on where the governing party thinks the money would be best spent. While a party might often want to funnel benefits to its core supporters, there may also be times when the core constituency can be counted on and the money can be more effectively spent on swing voters. Hence, it is difficult to know *a priori* which specific types of transfer payments the government will decide to boost. It is unlikely, though, that an increase in one kind of transfers will be offset by a decrease in others, given the political costs of such a move. For that reason, any politically-motivated increase in one type of benefits should show up in the aggregate numbers. I am grateful to James Alt for raising this issue.

[31] Golden and Poterba, 'The Price of Popularity', pp. 697–704.

[32] Simon Price and David Sanders, 'Modeling Government Popularity in Postwar Britain: A Methodological Example', *American Journal of Political Science*, 37 (1993), 317–34, pp. 330–2.

[33] Two prior studies of British transfer payments are worth mentioning. As discussed above, Frey and Schneider test a model in which governments base economic policy decisions on their 'popularity deficit', or the difference between their lead in the polls and some desired lead in the polls, which increases as the election approaches. When governments have a deficit, they



Note: This graph was obtained by regressing the quarterly growth rates of real transfers on a constant and seasonal dummies. The residuals of this regression were then plotted as a function of time.

Fig. 1. Government transfer payments in Great Britain, 1961–92

Graphical Evidence

Before discussing the regression models that were employed and their results, it is useful to look at some graphical evidence to demonstrate the plausibility of the argument developed here.[34] Figure 1 is a graph of the quarterly growth rate in real transfer payments, cleansed of seasonal effects. The graph was obtained by regressing the quarterly growth rate on dummy variables for each quarter and then plotting the residuals of that regression. The quarter before each

(F'note continued)

increase transfer payments to bolster their standing; when they have a surplus, they pursue partisan goals – i.e., Labour increases transfers, and Conservatives cut them. See Frey and Schneider, 'A Politico-Economic Model of the United Kingdom'. These findings were criticized by Chrystal and Alt, who tested various models but found no evidence of a politically-motivated cycle in transfer payments. While Chrystal and Alt tried a modified version of Frey and Schneider's model, none of their models directly tested the hypothesis advanced in this article. See Chrystal and Alt, 'Public Sector Behaviour'.

[34] All economic data came from Central Statistical Office, *Economic Trends: Annual Supplement 1993* (London: HMSO, 1993) and earlier editions. The level of real transfers was obtained by deflating nominal figures by the retail price index. Poll data is based on the Gallup voting intention poll, with the government's lead equalling the difference between it and the main opposition party (Labour or Conservative). These figures came from F. W. S. Craig, *British Electoral Facts 1832–1987* (Aldershot, Hants: Parliamentary Research Services, 1989) and were updated through 1992 by the Gallup Political Index. As Gallup poll data is reported monthly, the quarterly figures used here are three-month averages.

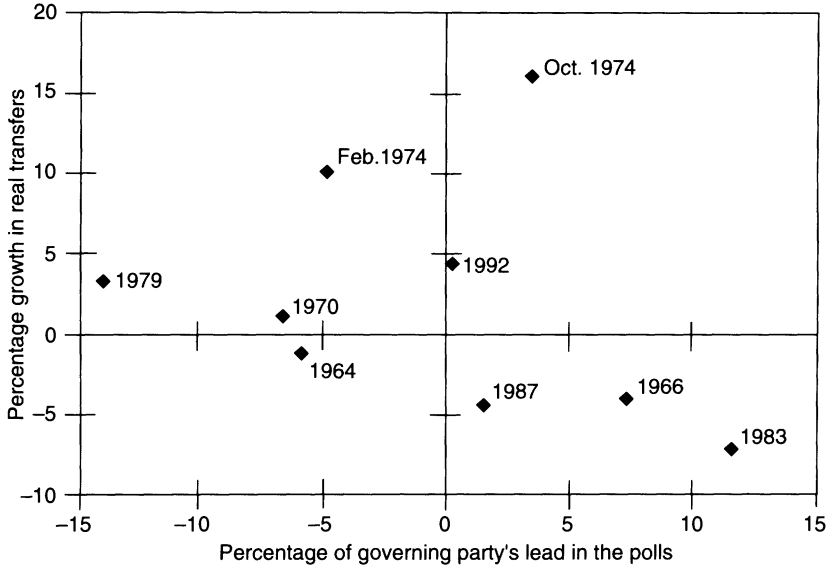


Fig. 2. Pre-election growth of transfers versus pre-election poll lead

election is marked.[35] The important thing to notice is that there was great variance in the pre-election growth rates: sometimes transfers grew, sometimes they did not, and other times they actually went down. Such variance would be difficult to explain if one were relying on a model which predicts policy manipulations to occur systematically at each election. Instead, it is clear that the magnitude of the policy cycle can vary greatly from one election to the next and that our models must be sensitive to this variation.

Figure 2 then suggests a possible explanation for the variance just observed. In this graph, the pre-election growth rates from Figure 1 have been isolated and plotted as a function of the governing party's lead in the Gallup voting intention poll. It is readily apparent from this figure that the pattern of pre-election growth rates conforms with the prediction of our central hypothesis. Transfers in the pre-election quarter increase when the government is behind in the polls, and their growth rates decline as the government's political security increases.

The main apparent exception to this conclusion is the October 1974 election in which the government had a reasonably safe lead of 3.3 per cent but nevertheless boosted transfers by over 15 per cent in the quarter before the election. This anomaly probably stems from the extraordinary circumstances surrounding that election. In the February 1974 election, Labour lost to the

[35] The analysis focuses exclusively on the quarter before each election. This quarter was selected based on the assumption that any manipulation of transfer payments would have to take place close enough to the election so that the resultant inflation would not be felt until afterwards. The election quarter itself was rejected due to the fact that a number of elections took place in the first several weeks of the quarter, so a significant portion of that quarter's transfer payments would have been paid out after the election.

Conservatives in the popular vote total, but, by quirk of electoral geography, managed to win the most seats and hence the privilege of forming a government. A strong showing by the third party, however, left Labour without a majority of seats. Labour thus decided to call new elections a few months later in order to capture a working majority. In effect, by calling an election so early, Labour was gambling away its minority government in hopes of attaining a majority in the next election. In such circumstances, we would expect the government to use whatever means it had at its disposal to ensure a victory. It could hardly be 'politics as usual' in this brief inter-election period. With little time to establish a record, Labour could only rely on quick dramatic steps to solidify support within the electorate. Hence, the incentive to manipulate short-term economic instruments was very high indeed. In this case, then, the poll figures only partially reflect the government's incentive structure. We will show this effect more clearly in the regression models.

Regression Models and Results

Three regression models were specified to test the hypothesis presented above against a more traditional political business cycle model. In all cases, the dependent variable was the real level of government transfers, measured quarterly from 1961(Q1) to 1992(Q2). The independent variables consisted of several economic controls as well as model-specific political terms. Included among the former were: real transfers lagged by one period, to account for the natural inertia in government spending;[36] quarterly dummy variables, to control for seasonal effects; the current account balance, an important external constraint on British economic policy;[37] real GDP, to control for the fact that government spending tends to increase in line with 'permanent income';[38] and the unemployment rate, to control for the fact that unemployment benefits make up a large portion of government transfers. Except for the quarterly dummy variables, the coefficients on all of these economic terms were expected to be positive.[39]

The political terms depended upon the model being tested. The first was a traditional policy cycle model in which the only political term was a dummy variable for the quarter before each election. The prediction of the traditional theory is that the coefficient on this variable should be positive and statistically significant. The analysis in Section II, however, suggested that this coefficient would not be statistically distinguishable from zero because of the high variance in pre-election policy manipulations.

[36] Mosely, *The Making of Economic Policy*, pp. 76–7; Alt and Chrystal, *Political Economics*, p. 222.

[37] Samuel Brittan, *Steering the Economy* (London: Secker and Warburg, 1969), pp. 265–7; Mosely, *The Making of Economic Policy*, pp. 95–7. Mosely points out, though, that the balance of payments was less important during the period of floating exchange rates.

[38] Alt and Chrystal, *Political Economics*, chaps. 9–10.

[39] The current account balance, real GDP and the unemployment rate all entered the regressions lagged by one quarter.

The second regression model tests the hypothesis that economic policy manipulations vary inversely with the incumbent's political security. In addition to the pre-election dummy variable, this model also included an interaction term between that dummy and the government's lead in voting intention polls over the main opposition party. With such a specification, it is possible to determine the effect of the quarter before the election conditional on the government's poll lead.[40] The main prediction of this model is that the coefficient on the interaction term will be negative, meaning that the pre-election growth in transfers decreases (increases) as the government's lead increases (decreases). In other words, the coefficient on the pre-election dummy will take the form $\beta_1 - \beta_2$*LEAD, with $\beta_1, \beta_2 > 0$. This conditional coefficient need not be significant for all values of the poll lead, and indeed it will certainly not be for those values at which no policy manipulation is necessary. Instead, we would expect the conditional coefficient to be significant only at values of the poll lead that warrant measurable manipulations of economic policy (namely, when the lead is negative). This model also included the government's poll lead in additive form. The theory makes no predictions about the sign or significance of the coefficient on this variable, but it was included to avoid imposing the unwarranted constraint that its coefficient was identically equal to zero.[41]

The third model was identical to the second but also included a dummy variable for the quarter before the October 1974 election. As stated above, there is good reason to believe that this election was a special case in which the poll numbers did not completely characterize the government's incentive structure. The coefficient on this variable was expected to be positive.

In order to correct for the inclusion of a lagged dependent variable, efficient estimators were obtained using the three-stage method devised by Wallis.[42] The results are presented in Table 1. As predicted, there is no evidence of an opportunistic cycle in transfer payments using the traditional model (Model I). The coefficient on the pre-election dummy is correctly signed but not statistically distinguishable from zero. The second model fares little better. The coefficient on the interactive term is correctly signed, but the variance is such that the conditional coefficient on the pre-election dummy would only be significant at impossibly low values of the poll lead.

The third model, however, reveals a robust policy cycle of the kind

[40] Friedrich, 'In Defense of Multiplicative Terms in Multiple Regression Equations'.

[41] When using interaction terms, there is always a danger of strong collinearity between the interaction term and the variables being interacted. In this case, the correlation between the interaction term and both the pre-election dummy (− 0.13) and the poll lead (0.24) are small enough to be of no concern.

[42] K. Wallis, 'Lagged Dependent Variables and Serially Correlated Errors: A Reappraisal of Three-Path Least Squares', *Review of Economics and Statistics*, 49 (1967), 555–67.

TABLE 1 *Models of the Political Business Cycle*

Variable†	Coefficient (*t*-statistic)		
	Model I	Model II	Model III
Constant	− 1,044.86 (− 2.40)**	− 871.93 (− 2.08)*	− 789.01 (− 1.98)*
1st quarter	− 55.89 (− 0.48)	− 60.71 (− 0.52)	− 41.76 (− 0.36)
2nd quarter	− 536.84 (− 6.26)**	− 546.76 (− 6.42)**	− 563.69 (− 6.87)**
3rd quarter	− 420.64 (− 4.29)**	− 424.99 (− 4.09)**	− 485.24 (− 5.14)**
Real transfers$_{t-1}$	0.91 (27.71)**	0.92 (29.33)**	0.91 (32.77)**
Real GDP$_{t-1}$	0.035 (3.37)**	0.030 (3.09)**	0.029 (3.17)**
Current account$_{t-1}$	0.12 (3.40)**	0.11 (3.22)**	0.11 (3.35)**
Unemployment rate$_{t-1}$	− 33.73 (− 1.57)	− 31.08 (− 1.40)	− 15.92 (− 0.86)
Pre-election quarter	241.00 (1.02)	225.99 (0.96)	− 6.73 (− 0.048)
Lead$_t$		1.41 (0.41)	0.52 (0.17)
Lead$_t$* Pre-election quarter		− 25.04 (− 1.13)	− 41.67 (− 3.88)**
Oct. 1974 election			1,877.00 (7.76)**
No. observations Corrected R^2	123 0.990	123 0.992	123 0.994

*Significant at 5 per cent level. ** Significant at 1 per cent level.
†Dependent variable: real transfer payments (£ million at 1985 value), 1961 (Q1) to 1992 (Q2).
Note: *t*-ratios in parentheses.

hypothesized above. The coefficient on the interaction term is correctly signed and significant below the 1 per cent level. This suggests that the failure of the second model was due entirely to the special nature of the October 1974 election. Clearly, the reasonably safe 3.3 per cent poll lead Labour held in the quarter before that election obscured the insecurity inherent in their situation: insecurity that is reflected in the large positive coefficient on the dummy variable. These

findings imply that, in the quarter before the election, transfer payments do tend to grow in an amount that suits the incumbent's political needs.[43]

Because there are only nine elections in the period covered by the data, it was important to make sure that no single election was driving the results. Consequently, the third regression model was re-estimated eight times, each time deleting one election. The October 1974 election, which is already treated as a special case, did not have to be deleted. The results were quite stable. The mean of the coefficients on the interaction term was -41.86 with a standard deviation of 5.86.

To demonstrate the magnitude and robustness of the policy cycle described by this model, Table 2 shows the predicted pre-election jump in transfers as a function of the government's poll lead, holding everything else constant. The entries in this table represent the conditional coefficients on the pre-election dummy for given values of the incumbent's lead.[44] As the table illustrates, governments tend to increase transfers by substantial amounts when they are trailing badly in the polls. Remember that the dependent variable in the model is real government transfers, with a single increment corresponding to £1 million at 1985 value. This means that a government trailing in the polls by 9 percentage points would be predicted to increase transfers by £368 million at 1985 value – hardly an insubstantial effect!

Conversely, large leads can bring about small or even negative movements in transfers before elections. The fact that governments cut back on transfer payments when they are very secure suggests that they are willing to expend some of their political capital in order to improve their long-run prospects. After all, a fiscally tight policy in the present could make it less costly for them to stimulate the economy in the future, when they might really need it. These results thus lend strong support to the ideas laid out in Section II.

IV. CONCLUSION

The argument developed in this article offers a way to model the political business cycle that corrects for an important weakness in traditional models. By failing to appreciate the incentives which governments have to manipulate the economy, previous investigators could not account for the large degree of variance they observed from one election to the next. Instead of trying to explain this variance, most writers generally assumed that governments were simply not creating electoral-economic cycles. This article, however, shows that the policy

[43] For purposes of comparison, the October 1974 dummy was added to the first model as well. Given that transfers were increased markedly in the quarter before that election, it should come as little surprise that this addition served to decrease the coefficient on the pre-election dummy variable. The coefficient on the pre-election dummy fell to 51.69 with a t-statistic of 0.31. The adjusted R^2 for this model was 0.993.

[44] The values of the poll lead in this table were selected roughly to reflect the range actually observed in pre-election quarters. The observed value of the pre-election poll lead ranges from -14 per cent to 11.5 per cent.

TABLE 2 *Conditional Coefficients on the Pre-Election Dummy*

Lead	Conditional coefficient	Conditional standard error	*t*-statistic
12	− 506.76	206.80	− 2.45***
9	− 381.75	184.18	− 2.07**
6	− 256.74	164.75	− 1.56
3	− 131.73	149.79	− 0.88
0	− 6.72	140.71	− 0.05
− 3	118.29	138.68	0.85
− 6	243.30	144.00	1.69*
− 9	368.31	155.91	2.36***
− 12	493.32	173.07	2.85***

*Significant at 10 per cent level. **Significant at 5 per cent level. ***Significant at 1 per cent level.

Note:: The entries in this table show the effect of the pre-election quarter as a function of the government's poll lead in that quarter. Recall that the third regression model included the terms $\beta_1 \text{ELECT}_{t+1} + \beta_2(\text{LEAD}_t * \text{ELECT}_{t+1})$. This can be rewritten as $(\beta_1 + \beta_2 \text{LEAD}_t) * \text{ELECT}_{t+1}$, making $\beta_1 + \beta_2 \text{LEAD}_t$ the 'conditional coefficient' on the pre-election dummy. The first column was thus calculated using the values of β_1 and β_2 from Table 1, column 3. In a pre-election quarter – that is, when ELECT_{t+1} equals one – transfers are predicted to rise by $\beta_1 + \beta_2 \text{LEAD}$, or the value of the conditional coefficient that corresponds to the government's lead at the time. Each increment of the conditional coefficient corresponds to £1 million at 1985 value.

To calculate the conditional standard errors, we recognize that the variance of the conditional coefficient, or $V(\beta_1 + \beta_2 \text{LEAD})$, is equal to $V(\beta_1) + \text{LEAD}^2 * V(\beta_2) + 2 * \text{LEAD} * C(\beta_1, \beta_2)$, where $C(\cdot,\cdot)$, is the covariance operator. The variance and covariance terms were calculated by the statistical software, with the former appearing as standard deviations in Table 1. These methods are outlined in Friedrich, 'In Defense of Multiplicative Terms in Multiple Regression Equations', p. 810.

manipulations differ from one election to the next precisely because governments' incentives also differ from one election to the next. When this fact is taken into account, it is possible to find politically-motivated economic policy cycles where traditional models cannot.

Of course, a test involving one country and one policy instrument in no way constitutes proof of the theory developed here. Further testing that includes other countries and other kinds of economic policy is clearly required. Nevertheless, the analysis in this section suggests that this approach to the political business cycle is promising and worthy of more research.