

## political business cycles

Theoretical and empirical research on political business cycles, both opportunistic and partisan, is surveyed and discussed. The evidence for the existence of empirically significant opportunistic political business cycles is argued to be mixed.

Political business cycles are cycles in macroeconomic variables – output, unemployment, inflation – induced by the electoral cycle. (Political cycles in fiscal policy variables, termed ‘political budget cycles’, are treated in a separate article.) Key questions this literature addresses include the following. Are such cycles observed in the data? What are the political and economic mechanisms that lead to such cycles? What do they imply about voter behaviour?

There are two basic types of models. ‘Opportunistic’ political business cycles are expansions in economic activity induced by an opportunistic incumbent before an election meant to increase his chances of re-election. ‘Partisan’ political business cycles are fluctuations in macroeconomic variables over or between electoral cycles resulting from leaders having different policy objectives.

### Opportunistic models

Formal models of the opportunistic business cycle began to appear in the mid-1970s, the most influential of which was that of Nordhaus (1975). The structure of the economy is summarized by a downward-sloping Phillips curve, yielding a trade-off between unemployment and unexpected inflation. Inflation expectations are formed adaptively on the basis of past observed inflation. Identical voters base their voting decisions on aggregate inflation and unemployment outcomes relative to their most preferred outcomes. They have a preference for both low unemployment and low inflation, but, in evaluating incumbents on the basis of macroeconomic performance, they have short memories and no foresight. An opportunistic incumbent policymaker has no preferences over inflation and unemployment *per se* and cares only about re-election. The slow adjustment of inflation expectations to economic stimulation, combined with myopic voters, allows an opportunistic incumbent to manipulate macroeconomic time paths to his electoral benefit. He stimulates the economy before the election to reduce unemployment, with the inflationary cost of such a policy coming only after.

More formally, the basic opportunistic model may be simply represented as follows. The objective of the policymaker is to maximize his probability of re-election, where voting behaviour is retrospective in that it depends on economic performance under the incumbent in the past. Economic performance in a period is measured by the behaviour of current inflation  $\pi_t$  and unemployment  $U_t$ , so that voter dissatisfaction in any period can be represented by a loss function which is increasing in these two variables. Consider, for simplicity:

$$L(U_t, \pi_t) = U_t + \theta \frac{(\pi_t)^2}{2} \quad (1)$$

where  $\theta$  is the relative weight the electorate puts on inflation deviations relative to unemployment and where (for simplicity of exposition) it is assumed that the representative voter’s most preferred rate of inflation is zero.

One may then posit a retrospective voting function for an election at the end of period  $t$ , of the form:

$$V_t = \Psi \left( \sum_{s=0}^{T-1} \gamma(s) L(U_{t-s}, \pi_{t-s}) \right) \quad (2)$$

yielding the number of votes  $V_t$  for the incumbent as a decreasing function of loss from economic outcomes ( $\Psi' < 0$ ). The exogenous length of time between elections is  $T$  periods, and  $\gamma(s)$  is the weight voters put on a loss  $s$  periods in the past.  $\gamma(s)$  is assumed to be decreasing in  $s$ , that is, past economic outcomes have a smaller effect on votes at  $t$  the further in the past they are. If  $\gamma(s)$  is rapidly decreasing in  $s$ , very recent events are weighted most heavily. In the extreme, if  $\gamma(s) = 0$  for  $s > 0$ , then only economic outcomes in the year of the election affect voting. The electoral mechanism is not made more specific. One could add a stochastic element to allow for the possibility of an incumbent losing the election.

In the Nordhaus model, the structure of the economy is summarized by an expectations-augmented Phillips curve relating the difference between the actual and the natural rates of unemployment  $U_t^N$  to the difference between actual and expected inflation  $\pi_t^e$ :

$$U_t = U_t^N - (\pi_t - \pi_t^e) \quad (3)$$

To close the model one must specify the formation of expectations. Crucial to the main results of the above models is some form of backward-looking expectations, so that inflationary policy in an election period is not fully anticipated and can therefore lower the unemployment rate. A standard formulation of adaptive determination of the expected rate of inflation:

$$\pi_t^e = \pi_{t-1} + \alpha(\pi_{t-1}^e - \pi_{t-1}) \quad (4)$$

where  $\alpha$  is a coefficient between 0 and 1 representing the speed with which expected inflation adapts to past expectational errors. This may be solved to yield  $\pi_t^e$  as a weighted declining sum of past inflation rates.

This four-equation system may then be solved for unemployment and inflation over the electoral cycle. When voters have ‘short memories’ ( $\gamma(s)$  small for  $s > 0$ ) a political business cycle will emerge if the incumbent wants to maximize his probability of re-election. In the period immediately after the election the government engineers a recession via contractionary monetary policy to bring down inflationary expectations. The incumbent keeps economic activity low to keep expected inflation low until the period immediately before the next election, so that a given rate of economic expansion (induced by a monetary surprise) can be obtained at a relatively low rate of inflation. The government then stimulates the economy via expansionary monetary policy, unemployment falling due to high unanticipated money growth. The levels of monetary expansion and unemployment are those which maximize voter satisfaction in the election period. In the next election cycle the same behaviour is repeated, with contractionary monetary policy to bring down inflation expectations. Hence, the possibility of influencing the probability of re-election, combined with the structure of the economy, yields a cycle in economic activity which would not be present with a planner with an infinite horizon. The political cycle thus induces a cycle in economic activity and inflation.

Though these models capture the incentive for opportunistic policymakers to manipulate policy and the macroeconomic cycle that may result, a number of conceptual and empirical objections may be raised. First, incumbents running for re-election do not control monetary policy in countries with

independent central banks. However, there is evidence that nominally independent central banks often accommodate the executive branch's pressures for monetary policy during election years in order to prevent sharp movements in interest rates (see, for example, Woolley, 1984, for evidence for the United States). Hence, politically motivated monetary policy in an election year may be a good approximation to reality.

Second, one may question whether voters are really as unsophisticated as the basic models assume, both in the way they form expectations of inflation and in the way they assess government performance. Voters realize that 'election-year economics' may be used to win their votes and hence may be sceptical of an economic upturn in the months before an election. More formally, their expectations of inflation should take the possibility of an election-year monetary expansion into account (which would then nullify its effects since it is no longer a surprise). An intermediate view is that voters have less-than-perfect information about the causes of economic fluctuations and take good economic performance as indicating incumbent competence. Hence voting for the incumbent when times are good is consistent with rationality when voters have imperfect information. This has been argued by Nordhaus (1989) and has been formalized using signalling models, as discussed below.

### Partisan models

In partisan models, cycles are induced by differences among parties in their ideology and their economic goals. The basic partisan model is due to Hibbs (1977), based on different preferences over inflation and unemployment across parties. One replaces the voters' loss function (1) with one representing the preferences of a party  $j$ , for example,

$$L^j(U_t, \pi_t) = \frac{(U_t - \tilde{U}^j)^2}{2} + \theta^j \frac{(\pi_t - \tilde{\pi}^j)^2}{2} \quad (5)$$

where  $\tilde{\pi}^j$  is party  $j$ 's target rate of inflation,  $\tilde{U}^j$  is party  $j$ 's target unemployment rate, and  $\theta^j$  is the weight party  $j$  puts on deviations of inflation from target inflation relative to deviations of unemployment from target. The two parties, say a right-wing party  $R$  and a left-wing party  $L$ , are characterized, for example, by  $\tilde{U}^L \leq \tilde{U}^R$ ,  $\theta^L \leq \theta^R$ , and  $\tilde{\pi}^L \geq \tilde{\pi}^R$ . Thus, the left-wing party will pursue a more expansionary monetary policy throughout its term. Using the same specification of the relation between unemployment and inflation as in (3) and a similar specification of backward-looking expectations (4), one may derive a cycle in which the level of economic activity and inflation varies with the ideology of the incumbent.

### Rational voters

Early models in both strands of the literature were often criticized in their modelling of expectations, since the backward-looking nature of expectations was crucial for some of the results. Hence, in both strands the focus has shifted to models in which voters form their expectations rationally, with the question being whether a political budget cycle will still exist with rational, forward-looking voters.

In the context of an opportunistic political budget cycle, the key argument is that some characteristic of policymakers is unobserved, and the voters' inference problem over an incumbent's 'type' will imply it is optimal to vote

more heavily for the incumbent when economic outcomes are favourable. A leading unobserved characteristic is the incumbent's 'competence'. More competent policymakers produce better outcomes, and competence has some persistence over time. Therefore, good outcomes in the time period before the election may signal high competence of the incumbent (relative to a challenger who cannot signal), which is expected to persist after the election. Hence, when competence cannot be observed directly, it may be optimal for voters to vote more heavily for the incumbent if times are good.

This argument may be formalized in an imperfect information framework. The first formal models concerned political budget cycles in work by Rogoff (for example, Rogoff, 1990). Persson and Tabellini (1990) and Lohmann (1998) present similar models of unobserved policymaker ability as applied to cycles in economic activity. High economic activity before an election signals a high-ability incumbent, that is, higher than the average expected ability of the challenger. Since ability has a persistent component, voters expect better economic performance from the incumbent than from the challenger after the election as well, and hence vote for him.

Alesina (1987) introduces rational expectations into the original partisan model of Hibbs, so that fluctuations in inflation and unemployment are driven by partisan differences combined with uncertainty about election outcomes. Close elections imply the sort of fluctuations Hibbs found, but because expansionary monetary policy by a left-wing policymaker (for example) is not fully anticipated before an election and therefore will lead to a fall in unemployment after the election. A key difference from the Hibbs model is that any effect on unemployment will no longer be present after inflation expectations are adjusted. Hence, the effects on unemployment will be concentrated early in a leader's term of office and disappear in the latter part of the term once the leader's preferences are known.

## Empirical testing

The existence of opportunistic political business cycles has been subject to extensive empirical testing. There are two key questions: are election years characterized by economic expansions? Do voters respond to 'good times'?

The standard test for the existence of a political cycle is to run an autoregression of an economic performance measure on itself, a small set of economic variables, and political dummies, that is, a regression:

$$Y_t = \sum_{i=1}^s a_i Y_{t-i} + b_0 + \sum_{j=1}^k b_j X_{jt} + d PDUM_t + \varepsilon_t \quad (6)$$

where  $Y$  is an outcome variable such as output growth, the  $X_j$  are control variables, and  $PDUM$  is a political dummy variable (or set of variables) meant to represent a given political model. The autoregressive specification for  $Y_t$  is adopted as a parsimonious representation of the time series behaviour of  $Y$ , instead of using a structural model. The hypothesis that output growth, for example, is higher in election years would be represented by setting  $PDUM_t$  equal to 1 in election years and zero otherwise, and testing whether the coefficient  $d$  is statistically significant.

The evidence for a political cycle in outcomes is quite mixed, with most studies finding little evidence of opportunistic political cycles in developed countries. Much of this evidence is summarized in Alesina, Roubini and Cohen (1997) and Drazen (2000).

The evidence on voter response to economic conditions is also mixed. Generally, the effect of growth on re-election probabilities was found to be insignificant in most cross-section studies in developed countries (see Brender and Drazen, 2005, for a summary). The United States seems to be an exception to these findings. The most influential paper on voter response in the United States is probably that of Fair (1978), who found that an increase in real economic activity in the year of the election, as measured either by the change in real per capita GNP or the change in unemployment in the election year, has a strong positive effect on the incumbent's vote total in US presidential elections. Alesina and Rosenthal (1995) find similar results.

Brender and Drazen (2005) confirm the insignificant effect of growth on re-election probabilities in developed countries in a large cross-section study of a sample of 74 democracies over the period 1960 to 2003. In contrast, they find that in less developed countries higher growth in real GDP has a positive and statistically significant effect on the probability of reelection. They then remove from the overall growth rate the part that voters might attribute to global developments and find that in the less developed countries it is the component of growth associated with domestic influences that accounts for the highly significant effect of growth on re-election, while the part attributable to global economic growth has no statistically significant effect on the probability of re-election. In the developed countries they find that neither the effect of global growth nor the effect of domestically induced growth is statistically significant.

There has been less empirical testing of the partisan political business cycle. The striking empirical regularity in the United States since the Second World War is that economic activity is substantially higher under Democrats than under Republicans in the first part of their four-year terms, but more similar in the second part of their terms, consistent with the Alesina model. However, Faust and Irons (1999) argue that the data do not give strong support to any partisan model. For the OECD, Alesina, Roubini, and Cohen (1997) find supporting evidence for the rational partisan model in a number of countries.

Overall, the focus of both theoretical and empirical research has shifted to political budget cycles, in large part due to the weak empirical evidence for the existence of an opportunistic political business cycle in many countries, combined with the widespread view that, nonetheless, election year manipulation of some sort is a common phenomenon.

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### See also

< xref = P000346 > political budget cycles.

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### Index terms

central bank independence  
 competence  
 imperfect information  
 infinite horizons  
 inflationary expectations  
 natural rate of unemployment  
 opportunistic vs. partisan business cycles  
 Phillips curve  
 political budget cycles  
 political business cycles  
 rational expectations  
 rational voting  
 signaling

### Index terms not found:

central bank independence  
 natural rate of unemployment  
 opportunistic vs. partisan business cycles  
 rational voting  
 signaling