PART IV

Applications and testing

Political competition and macroeconomic performance

> All political history shows that the standing of the Government and its ability to hold the confidence of the electorate at a General Election depend on the success of its economic policy.
>
> Harold Wilson (as quoted in Hibbs, 1982c)

In this part of the book we present four applications of the public choice approach to explaining real-world phenomena. The first application tries to explain the macroeconomic policies of governments. To what extent are these determined by the competitive struggle for votes? To what extent do voters take into account the macroeconomic performance of a government when deciding how to vote? These questions have elicited a variety of theoretical models to explain governmental macroeconomic policies and a gigantic number of empirical studies. Indeed, probably no other area of public choice has witnessed as much empirical testing of its propositions as this area of politico-macroeconomic models. Alas, as too often happens with empirical work, not all authors reach the same conclusions as to what "the data show," and the literature is therefore filled with often spirited exchanges. We shall not attempt to resolve all of the outstanding disagreements, but will try instead to give the reader a feel for the nature of the debate on various issues and the weight of the empirical support on each side of a question. We begin with the question that Harold Wilson obviously considered an established fact. Does the state of the economy affect how voters vote?

19.1 Macroeconomic performance and political success

19.1.1 *Vote and popularity functions*

The seminal study linking macroeconomic performance to political success was by Kramer (1971). He sought to explain the percentage of the vote going to Republican candidates for the House of Representatives between 1896 and 1964 by the state of the economy. Kramer found that the votes going to incumbent members of the House were inversely related to the rate of inflation and positively related to the growth in income.

Considerable evidence exists that confirms Kramer's initial findings in one way or another. Table 19.1 lists several studies that have tested whether unemployment (U), inflation (P), or real income affect the percentage of the vote that a candidate or party

Table 19.1. *The effect of macroeconomic conditions on votes for parties or presidents*

Country-dependent variable	Author(s)	Time period	Lagged dependent variable	Inflation rate (P)	Unemployment rate (U)	National income (Y)
U.S. House elections						
Republicans' vote shares	Kramer (1971)	1896–1964		-0.41^*P_t	$-0.001\Delta U_t$	0.27^*Y_t
Republicans' vote shares	Stigler (1973)	1896–1970		$-0.21^{**}(P_t - \bar{P})$		$0.17^*(Y_t - \bar{Y})$
Republicans' vote shares	Alesina and Rosenthal (1995)	1915–1988	0.89^{**}			$0.03\Delta Y_t$
Probability of an incumbent's reelection	Grier and McGarrity (1998)	1916–1994		-0.43^*P_t	$-0.40^{**}U_t$	$0.32^{**}Y_t$
Senate elections						
Incumbent party's share of vote	Peltzman (1990)	1950–1988		$-3.6^{**}\sum_{j=-48}^{-1}(P_{t+j} - \hat{P}_{t+j})^a$		$1.1^{**}\sum_{j=-48}^{-1}\Delta \ln Y_{t+j}$
Republicans	Bennett and Wiseman (1991)	1952–1986		ins[b]	ins[b]	ins[b]
Incumbent party's vote	Chressanthis and Shaffer (1993)	1976–1990	0.18^{**}	$0.05 P_t^c$	$-0.08\dfrac{\Delta U_t^c}{U_t}$	$0.59^{**}\Delta Y_t^c$ $0.01\dfrac{\Delta Y_t^c}{Y_t}$
Presidential elections						
ln (candidate in office)	Niskanen (1979)	1896–1972				$1.51^*\ln\left(\dfrac{Y_t + Y_{t-1} + Y_{t-2} + Y_{t-3}}{4}\right)$
Democratic candidates	Fair (1982)	1961–1980		$-0.68|P_t - P_{t-2}|/2P_{t-1}$		$0.98^{**}\Delta Y_t/Y_{t-1}$
Vote shares of candidate in office	Kirchgässner (1981)	1896–1976	0.49^{**}	$-0.12^{**}P_t^2$		

Dependent variable	Study	Period		Inflation	Unemployment	Output
Incumbent party's share of vote	Peltzman (1990)	1952–1988		$-9.7^{**}\sum_{j=-48}^{-1}(P_{t+j}-\hat{P}_{t+j})^a$		$3.1^{**}\sum_{j=-48}^{-1}\Delta\ln Y_{t+j}$
Bush's vote-share by state	Abrams and Butkiewicz (1995)	1992	0.75**		$-0.61^{**}U_t$	$0.19^{**}(\Delta Y_t-\Delta Y_{t-1})^a$
Republican candidate's vote shares	Alesina and Rosenthal (1995)	1915–1988	0.74**			$1.14^{**}\Delta Y_t$
Incumbent party's candidate	Hibbs (2000)	1952–1996				$4.1^{**}\dfrac{\sum_{j=0}^{14}\lambda^j\Delta\ln Y_{t-j}^e}{\sum_{j=0}^{14}\lambda^j}$
Gubernatorial elections						
Incumbent's probability of reelection	Adams and Kenny (1989)	1946–1984				$0.007^{*}\sum_{j=-4}^{-1}(Y_{t+j}-\hat{Y}_{t+j})^a$
Incumbent party's share of vote	Peltzman (1990)	1952–1988		$-2.7^{**}\sum_{j=-48}^{-1}(P_{t+j}-\hat{P}_{t+j})^a$		$1.4^{**}\sum_{j=-48}^{-1}\Delta\ln Y_{t+j}$
Incumbent party's share of vote	Levernier (1992)	1970–1988	0.39*		$-0.15 U_t$	$0.31^{**}\Delta Y_t$
Lower state legislatures						
Democrats percent of seats by state	Chubb (1988)	1940–1982	0.42**			$0.53^{**}Y_t^c$
Denmark						
Deviation from long-term trend of bigger party in power	Madsen (1980)	1920–1973		$-0.43^{*}P_t$	$-0.119(\Delta U_t-\Delta U_{t-1})$	
Norway						
Deviation of governing party from long-term average	Madsen (1980)	1920–1973		$-0.36^{*}P_t$	$-0.10 U_t$	

(continued)

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Table 19.1 (continued)

Country-dependent variable	Author(s)	Time period	Lagged dependent variable	Inflation rate (P)	Unemployment rate (U)	National income (Y)
Sweden						
Deviation of government party from long-term trend	Madsen (1980)	1920–1972		$-0.22P_t$	$-2.30^*(\Delta U_t - \Delta U_{t-1})$	$0.73^{**}Y_t$
France						
Left opposition parties	Rosa (1980)	1920–1973		$0.20^*\left(\dfrac{P_t + P_{t-1} + P_{t-2}}{3}\right)$	$+0.02^{**}\left(\dfrac{U_t + U_{t-1} + U_{t-2}}{3}\right)$	$-0.08^{**}\left(\dfrac{Y_t + Y_{t-1} + Y_{t-2}}{3}\right)$
Great Britain						
Incumbent party's share of vote	Hibbing (1987)	1945–1984		-0.49^*P_t	-0.50^*U_t	$-1.2^*\Delta Y_t$
England						
Labor Party/ Conservative Party share of vote	Fielding (2000)	1997[f]			1.02^*U_t	

Note: * Significant at 0.05 level, ** at 0.01 level, two-tailed tests. Variable definitions differ across studies (for example, real national income versus nominal national income). The reader must consult the original studies. X_t is current value of X, X_{t-i} is X lagged i period, $\Delta X_t = X_t - X_{t-1}$, $\bar{X}$ is a mean or trend value for X.

Note: [a] $\hat{P}_{t+j}$, $\hat{Y}_{t+j}$ is the predicted inflation rate or real income in period $t + j$.
[b] State economic conditions insignificant.
[c] National economic conditions when president is in same party.
[d] "Unexpected growth" in state real income per capita defined as growth from 1988–1992 (ΔY_t); less growth from 1984–1988 (ΔY_{t-1}).
[e] λ estimated to equal 0.95.
[f] Country-level, cross-sectional data. Conservative Party in office, predicted sign on U_t is positive.

Sources: Early studies are from Schneider and Frey (1988, Table 1). Reprinted with permission of Duke University Press.

in government receives. Although each variable is not significant in every study, and the coefficients bounce around a bit, the number of times that the coefficients on P, U, or Y are statistically significant and of the right sign compares favorably with other empirical studies of macrorelationships.

U.S. presidential elections occur once every four years, French presidential elections once in seven (now five). A British parliamentary election need not be held for up to five years. Thus, studies that try to predict the votes cast in national elections are constrained to small sample sizes, and often consequently small degrees of statistical significance. One way to avoid this problem is to do as Kramer did – estimate the relationships for lower offices of government where there are more contests. An alternative way to increase the reliability of one's estimates of the political consequences of macroeconomic performance is to use poll data rather than election data. Answers to questions like, "Do you think the president is doing a good job?" reflect at least in part a citizen's judgment about the state of the economy and the president's responsibility for it. And poll data are reliable, if not perfect, forecasts of election outcomes. Since polls are taken much more often than elections occur, they can be linked to quarterly and even monthly economic data. Table 19.2 lists several studies that have tested for a relationship between the government's or the president's popularity, as measured by pollsters and macroeconomic performance variables. The same pattern of results can be observed in Table 19.2 as exists in Table 19.1. Harold Wilson appears to have been right. A good macroeconomic performance increases the voters' approval of the government and increases its chances of reelection.

19.1.2 *Whom do voters hold responsible?*

Stigler (1973) attacked both the logic underlying Kramer's (1971) study of voting in House elections and its empirical findings. Reestimations of the basic equations for different time periods revealed the coefficients to be unstable.[1] An alternative explanation to the one given by Stigler for the weakness of the relationship between macroeconomic conditions and voting in House elections might be that voters do not hold their congressmen responsible for the state of the macroeconomy (Crain, Deaton, and Tollison, 1978). They might reasonably believe that their representative in the House is more directly responsible for the flow of redistribution dollars to and from them that arise due to pork-barrel programs, while the president is more directly responsible for macroeconomic policy.

This interpretation is supported by several cross-sectional analyses of panel survey data that fail to discern much of a relationship between voting in House elections and macroeconomic variables (Fiorina, 1978; Weatherford, 1978; Kinder and Kiewiet, 1979). Although Kramer (1983) is probably correct in arguing that errors in observation are particularly likely to obscure the relationship between the economic performance variables and voting in micro-cross-sectional analyses, these studies do nonetheless uncover the predicted relationships in Senate and presidential

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[1] See also Arcelus and Meltzer (1975a,b), Bloom and Price (1975), and Goodman and Kramer (1975).

Table 19.2. *The effect of macroeconomic conditions on party (presidential) popularity*

Country-dependent variable[a]	Author(s)	Time period	Lagged dependent variable	Inflation rate (P)	Unemployment rate (U)	National income (Y)
United States						
Presidential, Q	Schneider (1978)	1961:1–1968:4		-2.61^*P_{t-2}	$-5.43^{**}U_{t-2}$	
Presidential, Q	Schneider (1978)	1969:1–1976:4		-2.15^*P_{t-2}	$-3.89^{**}U_{t-2}$	
ln[POP/(100–POP)], Q POP = presidential	Hibbs (1982c)	1961:1–1980:1	0.84^b	$-0.017^{**}\ln(P_t/P_{t-1})$	$-0.017^{**}\ln(U_t/U_{t-1})$	$0.015^{**}\ln(Y_t/Y_{t-1})$
ln[POP/(100–POP)], Q POP =	Hibbs (1987)	1961:1–1984:1				
Popularity among						
Democats			0.83^b	$-0.028^{**}\ln(P_t/P_{t-1})$	$-0.030^{**}\ln(U_t/U_{t-1})$	$0.011^{**}\ln(Y_t/Y_{t-1})$
Republicans			0.77^b	$-0.039^{**}\ln(P_t/P_{t-1})$	$-0.025^{**}\ln(U_t/U_{t-1})$	$0.018^{**}\ln(Y_t/Y_{t-1})$
Independents			0.84^b	$-0.031^{**}\ln(P_t/P_{t-1})$	$-0.015^{**}\ln(U_t/U_{t-1})$	$0.015^{**}\ln(Y_t/Y_{t-1})$
Presidential, Q	Smyth and Dua (1989)	1971–1978		$-1.47^{**}P_t$	$+7.0^*U_t - 0.60^{**}U_t^2$	
Presidential, M	Smyth, Dua, and Taylor (1994)	1981–1988	0.63^{**}	$-0.11^{**}P_t^2$	$-0.35^{**}U_t^2$	
France						
Presidential, M	Lewis-Beck (1980)	1960:1–1978:4		$-1.89^{**}P_{t-2}$	-0.56^*U_{t-2}	
ln[POP/(100–POP)], Q	Hibbs (1981)	1969:4–1978:4	0.8^b	$0.004^{**}P_t$	-0.01^*U_t	$0.017^{**}Y_t$
ln[POP/(100–POP)], M	Lafay (1984)	1974:10–1983:12		$-0.028^{**}P_t$	$-0.103^{**}U_{t-1}$	$0.029^{**}Y_{t-1}$
Australia						
Governing parties, Q	Schneider and Pommerehne (1980)	1960:2–1977:2	0.66^{**}	-0.47^*P_{t-1}	$-1.13^{**}U_{t-1}$	0.05^*Y_{t-1}
Denmark						
Governing parties, Q	Paldam and Schneider (1980)	1957:2–1968:1	0.67^{**}	$-0.41^*(P_t - P_{t-4})$	$-0.73^{**}(U_t - U_{t-4})$	$0.19^*(Y_t - Y_{t-4})$

Germany						
Governing party, M	Kirchgässner (1976)	1951:1–1966:10	0.67**	−0.20**P_t	−0.43**U_t	
Governing parties, M	Kirchgässner (1977)	1970:3–1976:10	0.61**	−0.09*P_t	−0.31**U_t	
Governing parties, Q ln[POP(100−POP)]	Hibbs (1982c)	1957:4–1978:4	0.88^b	−0.0044**ln(P_t/P_{t-1})	−0.006**ln(U_t/U_{t-1})	0.0051**ln(Y_t/Y_{t-1})
Great Britain						
Government lead, Q (POP$_{GOV}$−POP$_{OPP}$)	Pissarides (1980)	1955:3–1977:4	0.52**	−0.57*($P_t−P_{t-1}$)	4.55*(1/U_{t-2})	0.26**Y_t
Governing parties, Q ln[POP/(100−POP)]	Hibbs (1982c)	1959:4–1978:4	0.88^b	0.0038**ln(P_t/P_{t-1})	−0.21**ln(U_t/U_{t-1})	0.0081Δln(Y_t/Y_{t-1})
Government lead, Q (POP$_{GOV}$−POP$_{OPP}$)	Minford and Peel (1982)	1959:1–1957:3		1.95P_{t+1}^c		0.53Y_{t+1}^c
Government, Q ln$\left(\dfrac{POP}{1-POP}\right)$	Price and Sanders (1994)	1951–1989	0.87**	−0.015**P_t − 0.009*P_{t-2}	−0.24**ΔlnU_{t-1} −0.28**ΔlnU_{t-2}	
Ireland						
Lead of main governing party over main opposition party, Q	Borooah and Borooah (1990)	1974–1987		−1.86*P_t	−0.008**U_{t-1}	1.39*Y_t
Japan						
Governing parties (30 observations)	Inoguchi (1980)	1960–1976		−0.68**P_t		0.59*Y_{t-2}
Governing party, Q	Suzuki (1994)	1961–1987	0.81**	0.008P_{t-1}		0.0003Y_{t-1}
New Zealand						
Government lead, Q (POP$_{GOV}$−POP$_{OPP}$)	Ursprung (1983)	1970:1–1981:4	0.28	−0.35**($P_t − P_{t-1}$) −0.039**P_{t-4}^2	−2.12**U_t −0.79**U_t^2	0.07Y_t/Y_{t-1}
Government, Q	Smyth and Woodfield (1993)	1985–1990				

(continued)

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Table 19.2 (continued)

Country-dependent variable	Author(s)	Time period	Lagged dependent variable	Inflation rate (P)	Unemployment rate (U)	National income (Y)
Sweden						
Social Democrats, M	Jonung and Wadensjoe (1979)	1967:3–1976:9	0.88**	$-0.10^* P_{t-1}$	$-0.73^{**} U_{t-1}$	
The Netherlands						
Popularity of 3 parties, M	Renaud and van Winden (1987a)	1970:1–1981:12				
Christian Democrats			0.83*	$-2.23^* P_t$	$-1.09^* U_t$	
Social Democrats			0.83*	$-1.67^* P_t$	$-0.57^* U_t$	
Liberal Conservatives			0.83*	$-0.78^* P_t$	$-0.36^* U_t$	

Notes: See Table 19.1.
[a] Q = quarterly; M = monthly.
[b] Estimated by iterative search for minimum sum of squared errors.
[c] Projected value assuming rational expectations.
Source: Schneider and Frey (1988, Tables 2 and 3) with additions and amendments. Reprinted with permission of Duke University Press.

voting. Peltzman's (1990) results presented in Table 19.1 are typical in this respect. Peltzman estimates the same model over the same time period using votes in presidential, Senate, and gubernatorial elections. Although the coefficients on unexpected inflation and income growth tend to be significant in all three sets of regressions, the coefficients in the presidential contests are much larger in absolute size. Alesina and Rosenthal (1995) obtain a significant relationship between income growth and votes in presidential races, but not in House contests.[2] Bennett and Wiseman (1991) find that economic conditions significantly affect a senator's chance for election only if he is from the same party as the president. Chressanthis and Shaffer (1993) can find no significant effects of any macroeconomic variables on votes in senatorial contests.

Weaker relationships between macroeconomic variables and party votes or popularity have also been observed in countries in which governments typically are formed by coalitions among several parties.[3] These findings again suggest that macroeconomic conditions only influence how citizens vote when the citizens can fairly readily hold a person or party responsible for these conditions. Thus, some discretion must be used when trying to interpret the importance of economic conditions for election outcomes, based on the results of vote- and popularity-function estimates.

19.2   Opportunistic politics

If voters weigh macroeconomic performance when deciding how to vote, then vote-seeking politicians will choose macroeconomic policies to win voters. One way to view this problem is to assume that inflation and unemployment are the only variables in the voter's utility function, and that a traditional long-run Phillips curve LL exists as in Figure 19.1. Since both inflation and unemployment are bad, voter indifference curves are concave to the origin with indifference curves closer to the origin representing higher utility levels.[4] LL is the effective opportunity set and, assuming two political parties, competition for votes between them leads to a single vote-maximizing point along LL. While each voter's indifference map might lead her to favor a different point along LL, with only U and P in the utility function, the inverse relationship between U and P inherent in the Phillips curve reduces the issue set to a single dimension, the choice, say, of U. Voters' preferences are single-peaked along LL, and the median voter theorem applies. If I_1 and I_2 are indifference curves of the median voter, then both parties will strive to adopt macro-stabilization policies that bring the economy to point M on the Phillips curve.

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[2] Kramer (1971), on the other hand, observed a much better fit when results for congressional elections were used, than for presidential elections. See also Kuklinski and West's (1981) comparative results for House and Senate voting, and Fiorina's (1978, 1981) for House and presidential voting.

[3] See Alesina et al. (1997, ch. 6) and the discussion and references in Nannestad and Paldam (1994, pp. 233–4). Swank and Eisinga (1999) find evidence that parties in coalition governments in the Netherlands were punished for poor macroeconomic results, once they controlled for partisan effects.

[4] Smyth and Woodfield (1993) estimate indifference curves for New Zealand voters that resemble those in Figure 19.1. The indifference curves estimated by Smyth and Dua (1989) for the United States look like inverted Us.
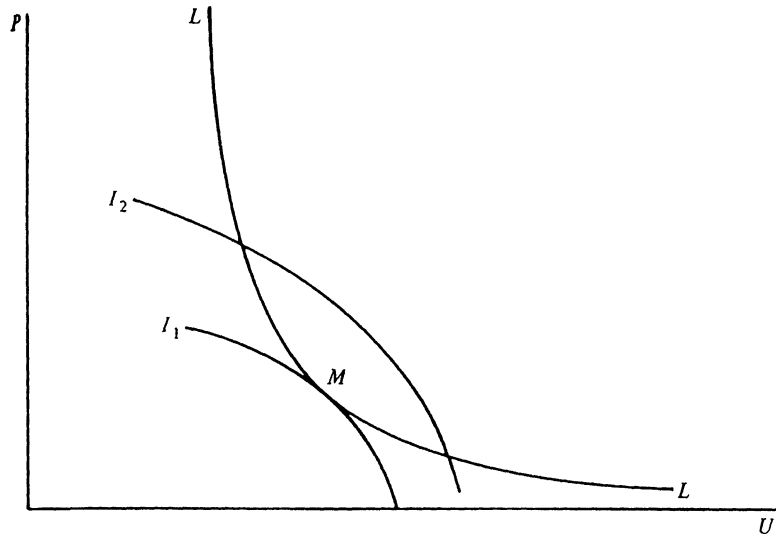
Figure 19.1. The trade-off between inflation (P) and unemployment (U).

19.2.1   *With myopic voters*

Thus, with choices constrained to a long-run Phillips curve like LL and fully informed, rational voters, two-party competition can be expected to result in a unique unemployment/inflation combination regardless of which party is in office. The situation is somewhat different, however, if, say, quantities respond more rapidly to changes in macroeconomic conditions than prices (Okun, 1981). The government can then manipulate the macroeconomic levers so as to reduce unemployment in the short run, with the full inflationary effect coming some time later. Governments face a short-run Phillips curve like SS in Figure 19.2. If voters ignore or heavily discount
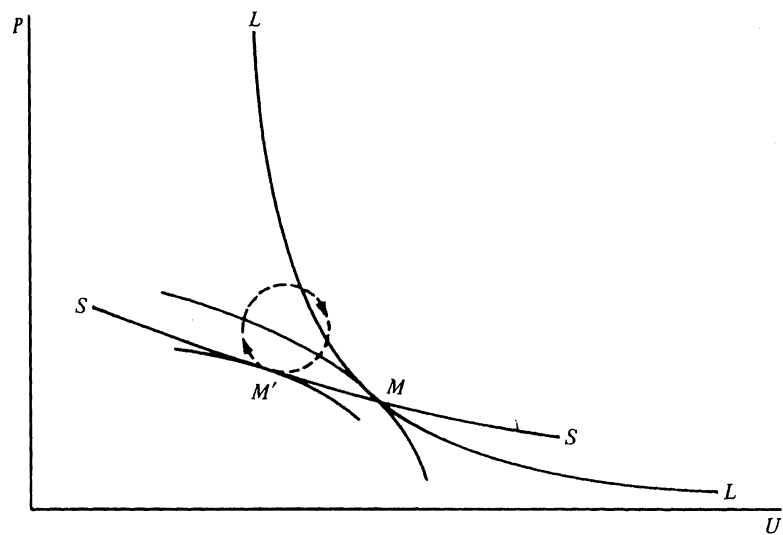
Figure 19.2. The political business cycle.

the future inflation that a movement along SS to the left of M must eventually bring, then the party in government can raise a substantial majority of voters' utilities in the short run by adopting policies that move the economy out along SS to, say, M'. The party in control of the government is in a position to increase its chances for reelection by reducing unemployment just before an election (Nordhaus, 1975; Lindbeck, 1976; MacRae, 1977; Fair, 1978; Tufte, 1978). In countries in which the government has some discretion in choosing when to call an election, the party in power has an even further advantage over the opposition in ensuring that elections occur under favorable economic conditions (Frey and Schneider, 1978b; Lächler, 1982).

Of course, after the election inflation rises and the economy returns to LL. But this higher inflation may be inherited by the opposition party, and even if the incumbent party wins, it can wring the inflation out of the economy after the election by sufficiently deflationary policies. Thus, the prediction emerges from our first opportunistic model of macroeconomic policy that incumbent parties deliberately create a political business cycle (PBC) with falling unemployment (rising national income) prior to an election, and rising unemployment (falling inflation) afterward, as depicted, say, by the dashed line in Figure 19.2.

19.2.2 *With rational voters*

The preceeding model of a political business cycle assumes that voters are myopic. They vote for the government at M' as if this combination of U and P were sustainable, even though the economy will soon change and bring them to lower levels of utility than at either M' or M. Moreover, they never learn from their mistakes. Each government tries to trick the voters into believing that it is able to deviate from the long-run Phillips curve, and voters regularly fall for the trick.

This kind of extreme voter myopia is difficult to reconcile with the assumption of rational actors upon which much of public choice is based, and the assumption of the rational expectations of all economic agents that has come to dominate the macroeconomic modeling in the years since the myopic voter/opportunistic PBC models first appeared. Following Rogoff and Sibert (1988) several variants of a rational voter/opportunistic PBC model have now appeared.[5] In these models parties or candidates differ in their abilities to macromanage the economy. Candidate A can achieve a greater rate of growth in income for a given level of inflation than can candidate B. If voters are fully informed, candidate A always wins the election. A PBC can be generated, however, if we assume that the voters are not fully informed. If A is the incumbent, she can signal her greater competence by inducing the economy to grow faster prior to the election. The voters can recognize that she is the more competent candidate, because it would be too costly for the less competent candidate to adopt this policy. Although this artificial acceleration in growth results in some unnecessary inflation or other costs after the election, the voters are still better off electing A since she is able to manage the economy better than her opponent.

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[5] See also Lächler (1984), Persson and Tabellini (1990), Rogoff (1990), Alesina and Rosenthal (1995, ch. 9), and Sieg (1998).

This model thus predicts, as does the myopic voter model, that governments will increase certain categories of spending, run deficits, and perhaps create extra inflation just prior to an election.

19.3   Partisan politics

The two-party competition model just described assumes that voters have no loyalty to any party and parties have no loyalties toward specific groups of voters. Political competition is, like market competition, impartial. Voters vote for the party coming closest to their position on inflation and unemployment; parties court all voters with equal alacrity. Both parties would converge on the same combination of unemployment and inflation if constrained to points along the long-run Phillips curve; both parties try in the same way to manipulate the economy to their advantage just before elections.

A large body of evidence exists indicating that voters' choices of party are not as fluid as the preceding characterization suggests. Moreover, parties do not promise exactly the same policies. The attraction of voters for particular parties and ideological inertia of party goals can be explained by an extension of the voter-self-interest-party-competition model.

Blue-collar and unskilled workers are more likely to become unemployed and stay unemployed than are white-collar and professional groups. Thus, it is rational for lower-skilled groups to be more concerned about unemployment. That they are is illustrated in Figure 19.3 taken from Hibbs (1982b) (see also Tufte, 1978, pp. 83–4; and for the United States, Hibbs, 1979, p. 715, and 1987, p. 139). The vertical axis gives the percentage of individuals of a given occupational group who regarded unemployment as "a particularly important issue" or the "most important problem" at the time. Not surprisingly, unemployment is regarded as a more important issue in 1975 when the unemployment rate stood at 4.2 percent, than in 1969 or 1964 when the rates were 2.5 and 1.8 percent, respectively. But at any given point in time, the lower-status occupational groups show a greater concern about unemployment than the managerial and professional group.

Given their greater relative concern about unemployment, it is perhaps not surprising to find that the lower-status groups' support for the president or government in office is more sensitive to unemployment levels. Table 19.3 reports estimates of the effects of changes in unemployment, inflation, and real income on support for the president in the United States and governing party in the United Kingdom. In both countries, the response to changes in unemployment differs to a greater extent across occupational groups than it does for inflation. Indeed, there is little difference in the response of the different groups to changes in inflation within either country, while the responses to changes in unemployment differ by a factor of more than four in the United States and two in the United Kingdom. Note also that the coefficients on inflation are much higher relative to those on unemployment in the United States than in the United Kingdom. According to Hibbs's estimate, Americans on average are more concerned about inflation relative to unemployment than the British population. In even starker contrast to the United States, the New Zealanders appear to be

Table 19.3. *Changes in support for the U.S. president and U.K. governing party in response to macroeconomic performance*

Occupational group	Inflation rate	Unemployment rate	Real income growth rate
Gallop poll approval, U.S. presidents (1960–79)			
Blue-collar	−3.3	−2.2	+2.7
White-collar	−3.6	−1.6	+2.1
Nonlabor force	−3.2	−0.45	+1.2
Political support for U.K. governing party (1962–78)			
Semi- and unskilled workers, widows, and state pensioners	−1.9	−2.85	+1.0
Skilled workers	−1.8	−3.3	+1.3
Nonmanual employees	−1.7	−1.55	+0.55

Sources: Hibbs (1982a, Table 4; 1982b, Table 3). Figures are Hibbs's figures for a 2-percentage-point increase divided by 2. All figures are values for complete adjustment except U.K. real income change figure, which is after 8 quarters.
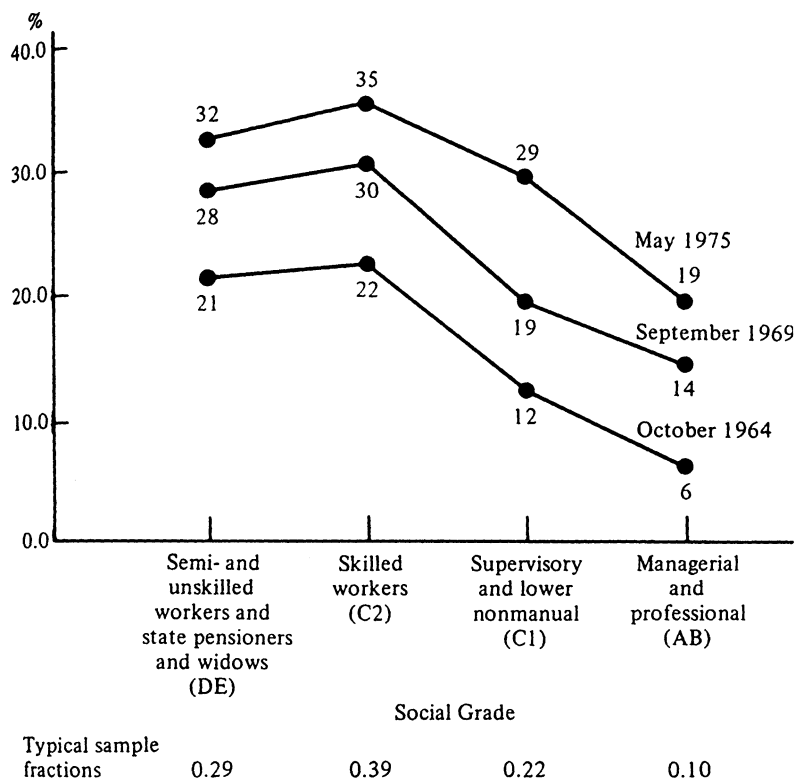

Figure 19.3. Percentage of survey respondents regarding unemployment as a "most serious problem." *Source:* Hibbs (1982b, p. 262).
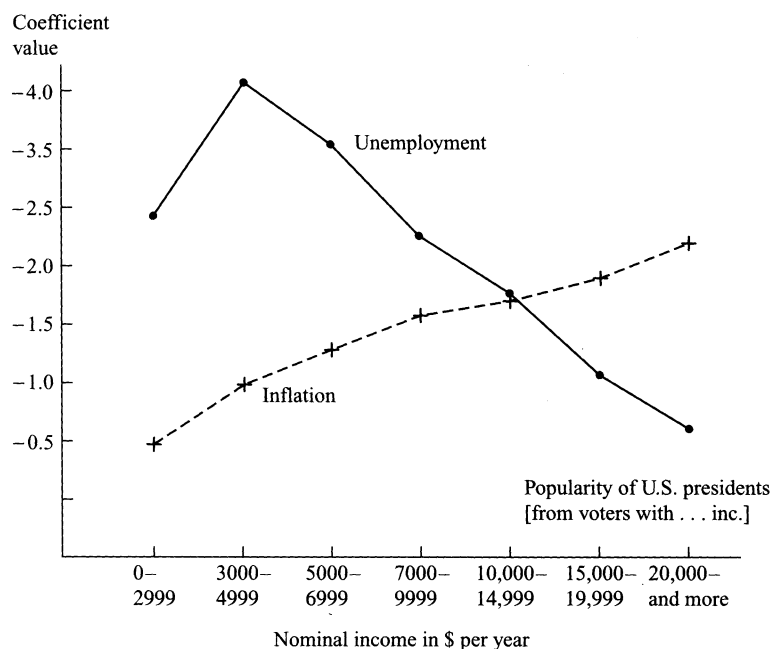
Figure 19.4. Coefficients for unemployment and inflation in U.S. presidential popularity equations (1969–76), seven income groups. *Source:* Schneider (1978); Schneider and Frey (1988).

willing to trade off large increases in inflation for small reductions in unemployment (Smyth and Woodfield, 1993).

Figure 19.4 plots the coefficients on unemployment and inflation by income group in a presidential popularity function estimated by Schneider (1978). Consistent with the relationship across occupational groups reported in Table 19.3, one finds that the support for the president is more sensitive to changes in unemployment the lower the group's income.[6] Conversely, support for the president is more sensitive to changes in inflation rates the higher a group's income is. Although there is more variability in the coefficients on inflation in Schneider's results than in Hibbs's, the line connecting the inflation coefficients in Figure 19.4 is flatter than the one connecting the unemployment coefficients. The differential response to unemployment changes is greater across income groups than is the differential response to inflation. Note that Schneider's results indicate a greater relative concern for unemployment among Americans than Hibbs's results. The absolute value of the coefficient on inflation is higher than that for unemployment for only two of the seven income groups.

These differences in attitudes toward unemployment and inflation across income classes will translate into differences in party platforms if, unlike in the Downsian model, parties cater to different groups of voters. Wittman (1973) was the first to modify the Downsian model by endowing party leaders with goals other than simply getting elected, and this behavioral assumption underlies all partisan politics models. Parties of the left are assumed to draw their political support from lower

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[6] The anomalous coefficient for the lowest income group may come about because this group contains a disproportionate fraction of retirees who may be less concerned about unemployment.

occupational status and income groups. These groups are more concerned about unemployment and their support is more sensitive to changes in unemployment. Parties of the right draw their support from groups more concerned about and responsive to inflation. An analysis of left-of-center party membership should find them more responsive to unemployment, and right-of-center members to inflation – and it does. An increase in unemployment lowers the percentage of Democrats who approve of the president's performance by two to three times as much as it reduces the support of Republicans. On the other hand, an increase in the inflation rate reduces a president's approval among Republicans by somewhat more than it does among Democrats, although the differences are less dramatic (Hibbs, 1982a, Table 4; 1987, pp. 175–82).

19.3.1 *Partisan politics with retrospective voters*

The political scientist V.O. Key, Jr. is often cited as the originator of the retrospective voter hypothesis.

> The patterns of flow of the major streams of shifting voters graphically reflect the electorate in its great, and perhaps principal, role as an appraiser of past events, past performance, and past actions. It judges retrospectively; it commands prospectively only insofar as it expresses either approval or disapproval of that which has happened before.[7]

The first full development of a model of electoral politics with retrospective voters is due, however, to Fiorina (1977a, 1981). Hibbs (1981, 1982a,b,c, 1987, 1992, 1994, 2000) incorporates the same view of a rational, retrospective voter into his models of partisan politics. In deciding which party to vote for, the individual evaluates the performances of the competing parties on the issues of highest salience to her. For low-income and status groups this issue tends to be unemployment; for higher-income and status groups inflation. The former groups are drawn rationally to the left-of-center parties because these parties have better records at reducing unemployment, just as the higher-income and status groups are drawn to the right-of-center parties owing to their better performance at reducing inflation.

These behavioral assumptions may be captured with the following model. Each voter evaluates the performance of the incumbent party using the weights she places on unemployment and inflation. Letting E_{it} be the performance evaluation of the incumbent party by voter i at time t, we have

$$E_{it} = \alpha_i \left(\sum_{j=1}^{n} \lambda^j U_{t-j} \right) + \beta_i \left(\sum_{j=1}^{n} \lambda^j P_{t-j} \right), \qquad (19.1)$$

where U_{t-j} and P_{t-j} are the unemployment and inflation levels at time $t - j$. If voter i comes from a lower socioeconomic class than voter k, then

$$\alpha_i > \alpha_k \quad \text{and} \quad \beta_i < \beta_k. \qquad (19.2)$$

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[7] Key (1966, p. 61). See discussion by Keech (1995, ch. 6).

Each voter evaluates the performance of the incumbent party at the time of the election, and votes for the incumbent party if its evaluated performance is higher than some benchmark level of performance that the voter expects that the opposition party might have obtained.

Given the differences in weights that the voters place on unemployment and inflation, if left-of-center parties do produce lower levels of unemployment and higher levels of inflation over time than do right-of-center parties, then they will win larger fractions of the votes of low-income voters. Note, however, that the model does incorporate a form of voters' reward for competence. If a right-of-center party manages to produce sufficiently low levels of inflation and unemployment, it will win votes from those voters on the left for whom the right-of-center party's performance evaluation exceeds the expected performance of the left-of-center party.

It should also be noted that, although voters are assumed to be backward looking, they are not assumed to be either irrational or necessarily myopic. Rather voters and parties are both assumed to recognize that they are essentially in a principal–agent relationship. Since the voters cannot write a contract that binds parties to good performance while in office, all of the incentives for good performance have to come at the time of "settling up," that is, when the party runs for reelection. Good performance is rewarded by reelection; bad performance is punished through the election of the opposition (Ferejohn, 1986).

How myopic these retrospective voters are depends on the sizes of n and λ in (19.1). This is, of course, an empirical question to which we shall return.

19.3.2   *Partisan politics with rational, forward-looking voters*

The first paper to introduce rational expectations into a form of partisan-politics model was by Minford and Peel (1982). The variant of this type of model that has received the most attention, however, is due to Alesina (1987). We shall outline here the formulation as it appears in Alesina and Rosenthal (1995).[8]

The first problem one faces when building rational expectations into a political economy model of macroeconomics is that with rational expectations both the Phillips curve and the political business cycle disappear (Detken and Gärtner, 1992). Voters anticipate and neutralize every possible partisan or opportunistic action by the government. To bring politics back into the picture, the strong form of the rational expectations assumption must be relaxed in some way. Alesina and Rosenthal do this in their model of U.S. politics by assuming that voters *and labor unions and employers* are uncertain about the outcome of a presidential election at the time that they vote. The wage contracts signed just prior to an election will, therefore, be based on an expected rate of inflation that is somewhere between the inflation *rate that the Left Party favors and the rate favored by the Right Party. If the Left wins the election it can adopt a temporary policy of stimulating the economy and* reducing unemployment at the cost of some additional inflation. A victory by the Right allows it to successfully reduce inflation by contracting the economy. When

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[8]   See also Alesina (1988a,b) and Alesina and Roubini with Cohen (1997).
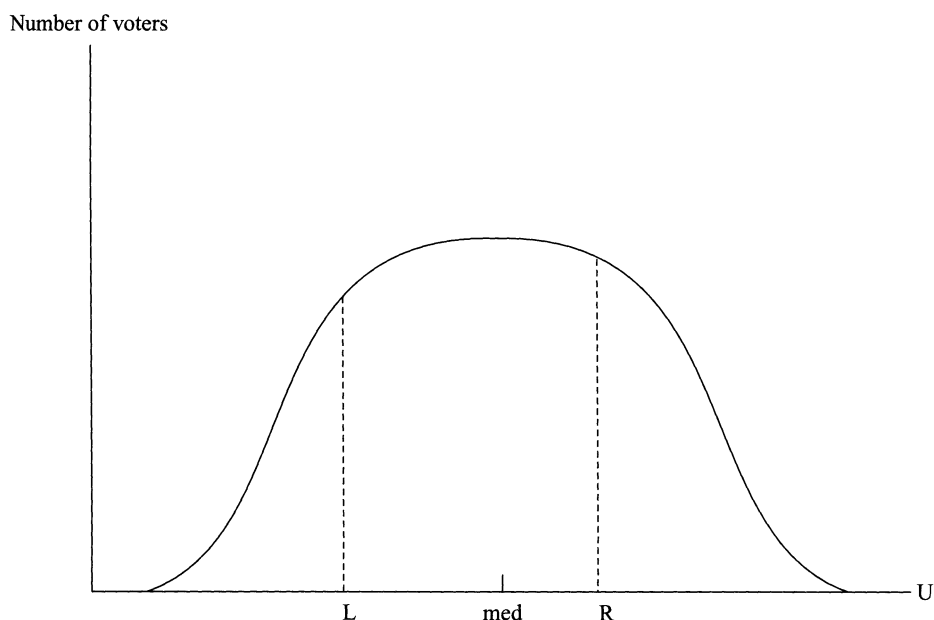
Number of voters

Figure 19.5. Distribution of voter preferences and party positions.

the mid-term election comes around, there is no longer any uncertainty about who is in the White House. The full force of rational expectations is at work. The economy is locked into its natural rate of unemployment.

The Alesina and Rosenthal model thus makes some very specific predictions about the patterns of unemployment and inflation over a four-year electoral cycle. If a Democratic administration takes office, unemployment should fall following the election and then return to its natural rate toward the end of the cycle. A victory by the Republicans has the exact opposite pattern over the first two years, but the economy winds up in exactly the same place at the next presidential election.

An important advantage of the Alesina and Rosenthal model comes in the way it allows them to analyze the interplay between Congress and the president. To see what is involved, consider Figure 19.5. Competition for votes takes place over a single-dimensional policy space. For our purposes we might think of this being the choice of the level of unemployment. The distribution of voters is assumed to be single peaked with the two parties having favored policy positions to the left and right of the policy preferred by the median voter. If the Left Party controls both the White House and the Congress, it implements its preferred policy, L. If the Right Party controls both branches, it implements R. With *divided government*, that is, one party in control of the White House and the other of Congress, Alesina and Rosenthal assume that a compromise on macroeconomic policy must be reached and some level of unemployment between L and R arises. This in turn means that some voters who prefer policy outcomes between L and R actually prefer to see different parties controlling each branch than one party in control of both.

This line of reasoning allows Alesina and Rosenthal to account for "split-ticket voting" and the "midterm cycle." A voter who prefers a policy between L and R

might rationally vote for one party for the office of president and the other for Congress to try and get a divided government. If one party, say the Left, wins the presidency, a swing of voters to the Right Party can be expected at the midterm election as some of the voters in the middle of the distribution try to strengthen the hand of the Right Party in Congress as a balance against the president. We turn now to see how these and the predictions of the other political economic models stand up against the data.

19.4   The evidence

19.4.1   *Do politicians try to manipulate the macroeconomic environment?*

The simplest way to operationalize the voter self-interest postulate is to assume that income is the only argument in the voter's utility function, and as Tufte (1978, p. 29) noted, "The quickest way to produce an acceleration of real disposable income is for the government to mail more people larger checks." Tufte (1978, ch. 2) provided ample evidence of the use of transfer payments to win votes in the United States, and Frey and Schneider (1978a,b, 1979) presented econometric evidence of increases in government expenditures before elections in both the United States and the United Kingdom. This early work was heavily criticized by Brown and Stein (1982) and Alt and Chrystal (1983), and several subsequent studies have failed to find evidence of cycles in expenditures, taxes, or transfers that are related to the electoral cycle (Paldam, 1979, 1981a,b; Golen and Poterba, 1980; Lowery, 1985; Sorensen, 1987).

As Blais and Nadeau (1992, pp. 391–2) point out, however, in these studies the coefficients on the key variables are often of the predicted sign and their lack of statistical significance may be simply due to the scant numbers of time series observations available. Blais and Nadeau avoid this problem by using data on the ten Canadian provinces from 1951 to 1984. They find significant increases in spending on roads and social services as well as in total spending. In election years budget deficits also increase. Their findings have been reconfirmed by Reid (1998) using provincial data from 1962 through 1992. Hibbs (1987, chs. 7 and 9) provides further evidence on the use of transfers to win votes in the United States. Bhattacharyya and Wassmer (1995) find that city government expenditures rise and taxes fall in election years. Yoo (1998) demonstrates that the Liberal Democratic Party systematically reduced taxes in election years in Japan from 1953 through 1992. Van Dalen and Swank (1996) observe significant increases in social security payments, defense expenditures, and outlays for public administration in election years. Finally, Schuknecht (2000), using data from 24, and Alesina and Roubini with Cohen (1997, ch. 7), using data from 18 OECD countries, find public spending and deficits rising just prior to elections.

The discretion governments have to manipulate fiscal policies is limited, of course, and thus the amounts by which expenditures rise or taxes fall at election times tend to be modest – typically of the order of 1 to 3 percent. With such small changes and

heterogeneous behavior, it is quite possible that a statistically significant relationship will not be found in a given set of data, particularly when the data set is small. However, the most recent studies with longer time series and using pooled cross-section/time series data seem to confirm the early work of Tufte, Frey, and Schneider. It is difficult to avoid the conclusion that *some* politicians open the public spigots prior to at least some elections to win votes.[9]

Evidence that governments also speed up the printing press just prior to elections is more mixed, but still tilts in the direction of opportunistic increases of the money supply, usually measured as $M1$, prior to elections. Supportive evidence for the United States has been provided by Allen (1986), Richards (1986), Grier (1987, 1989a), Havrilesky (1987), Chappell and Keech (1988), Haynes and Stone (1989), Williams (1990), and Carlsen (1997); for Germany by Berger and Woitek (1997); and for 18 OECD countries by Alesina and Roubini with Cohen (1997, ch. 7). Counterevidence, all for the United States, comes from Golen and Poterba (1980), Beck (1984, 1987), and Hibbs (1987). Once again time series are often short, and even where evidence of opportunistic money supply increases is found, the statistical and/or economic significance is not overwhelming. But even in countries like the United States and Germany, where central bank independence is taken as a given, the central bankers do not appear to be totally oblivious to the electoral fortunes of their governments.

19.4.2 *Are there partisan biases?*

We reviewed the preceding evidence indicating that lower income groups tend to be more concerned about unemployment and upper income groups about inflation. Lower income groups have traditionally supported parties on the left and upper income groups parties on the right. Is this party allegiance rational? Do parties on the left promise to do more about unemployment than do parties on the right? Do they deliver? The answers to the latter two questions are unequivocally "yes".

A content analysis of the annual *Economic Report of the President and the Council of Economic Advisers* along with party platforms reveals far more emphasis on unemployment by the Democrats and far more emphasis on inflation by Republicans (Tufte, 1978, pp. 71–83). Evidence exists that the same differences are present in other countries (Kirschen, 1974).

These differences in rhetoric are matched by differences in policies. Using quarterly data over the period 1953 through 1990, Hibbs has estimated the apparent target growth rates under Democratic and Republican administrations. He found "that the inflation-neutral growth rate goals of the Democrats typically were about

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[9] This action could also be interpreted as consistent with the Rogoff and Sibert (1988), and Rogoff (1990) rational-expectations PBC. One of the predictions from this model is, however, that "the incumbent leader has an incentive to bias pre-election fiscal policy toward easily observed consumption expenditures, and away from government investment" Rogoff (1990, p. 21). Several studies have found, however, that investment is one of the government outlays that does increase just before elections (Blais and Nadeau, 1992; van Dalen and Swank, 1996; Schuknecht, 2000), and is even favored over consumption (Reid, 1998).

6 to 7 percent above historical trend," while "aggregate demand changes under the Republicans generally were just big enough to perpetuate received real growth rates" (Hibbs, 1994, p. 10).

Monetary policy has been more expansionary in the United States when Democrats control the key banking committees in Congress and/or occupy the White House, although the differences in policies are not uniform across administrations (Hibbs, 1977, 1987; Beck, 1982c; Chappell and Keech, 1988; Grier, 1991, 1996; Havrilesky, 1993; Caporale and Grier, 1998). Alogoskougis, Lockwood, and Philippopoulos (1992) found that labor governments pursue more expansionary monetary polices in the United Kingdom and Alogoskougis and Philippopoulos (1992) found the same for Greece. Alesina and Roubini with Cohen (1997, ch. 7) found evidence of partisan bias in monetary policy in their study of 18 OECD countries. Berger and Woitek (1997) were not able to detect any partisan biases in Germany's monetary policy, however.

Alesina and Roubini with Cohen (1997, ch. 7) did not find that budget deficits were larger in their sample of 18 OECD countries when left-of-center parties were in power. On the other hand, Blais and Nadeau (1992) observed lower spending and smaller deficits in Canadian provinces controlled by right-wing governments. De Haan and Sturm (1994) found that EU countries controlled by left-wing governments spent more. Van Dalen and Swank (1996) found that left-wing governments in the Netherlands allocate more funds to social security and health care; right-wing governments spend more on infrastructure and defense. Allers, de Haan, and Sterks (2001) estimate high local property taxes in Dutch municipalities controlled by left-of-center parties. A governing party's ideology does appear to influence the policies it chooses.

What differences do these policies make? Since the thrust of the literature on politically driven macropolicies has been concerned with unemployment and inflation, it is natural to look at these indicators of macroeconomic performance. Table 19.4 reports unemployment U and inflation P rates in the fourth years of every presidential term since 1952. The middle portion of the table indicates that each of the seven Republican presidential terms resulted in an average increase of 1 percentage point in the unemployment rate, an increase of 20 percent over the figure in the year before the presidential term began. Inflation was reduced by an average of 1.4 percentage points, on the other hand. The five Democratic presidential terms brought unemployment down by an average of 1.2 percentage points per term, while raising inflation by 2.2 percentage points.

Perhaps the most revealing figures are at the bottom of the table for the four full Republican administrations and three Democratic ones. Since 1952 Republican presidential administrations have added 7.0 percentage points to the unemployment rate, while taking 8.9 percentage points off the rate of inflation. Democrats have added 11.1 percentage points to inflation while lowering unemployment by 6.0 percentage points.

A similar picture is obtained from Hibbs's time-series model for predicting unemployment and real output levels. Using quarterly data from 1953:1 through 1983:2,

Table 19.4. *Macroeconomic performance of U.S. economy under Republican and Democratic presidents (1952–2000)*

Year	U	P	Year	U	P
1952	3.0	0.9	1980	7.1	12.4
1956	4.1	2.9	1984	7.5	3.9
1960	5.5	1.5	1988	5.5	4.4
1964	5.2	1.2	1992	7.5	2.9
1968	3.6	4.7	1996	5.4	3.3
1972	5.6	4.4	2000	4.0	3.2
1976	7.7	4.8			

Changes in U and P by party of president for presidential terms

	Republican					Democratic			
	ΔU		ΔP			ΔU		ΔP	
Term	ABS.	%	ABS.	%	Term	ABS.	%	ABS.	%
52–56	+1.1	+31	+2.0	+105	60–64	−0.3	−6	−0.3	−22
56–60	+1.4	+29	−1.4	−64	64–68	−1.6	−36	+3.5	+119
68–72	+2.0	+43	−1.3	−32	76–80	−0.6	−8	+7.6	+88
72–76	+2.1	+32	+1.4	+34	92–96	−2.1	−33	+0.4	+13
80–84	+0.4	+5	−8.5	−104	96–00	−1.4	−26	−0.1	−3
84–88	−2.0	−31	+0.5	+12					
88–92	+2.0	+31	−1.5	−41					
Average	+1.0	+20	−1.4	−13		−1.2	−22	+2.2	+39

Changes in U and P by uninterrupted party control of presidency

	ΔU	ΔP
Republican administrations		
Eisenhower (1952–60)	+2.5	+0.6
Nixon-Ford (1968–76)	+4.1	+0.1
Reagan (1980–8)	−1.6	−8.0
Bush (1988–92)	+2.0	−1.5
Cumulative	+7.0	−8.8
Democratic administrations		
Kennedy-Johnson (1960–8)	−1.9	+3.2
Carter (1976)	−0.6	+7.6
Clinton (1992–2000)	−3.5	+0.3
Cumulative	−6.0	11.1

Source: Council of Economic Advisors, Economic Report of the President. Washington, D.C.: U.S. Government Printing Office, 1989, 2001. Figures for 2000 are preliminary.

Hibbs estimates that Democratic administrations have a long-run impact on the economy that tends to reduce unemployment by 2 percentage points and increase real output by around 6 percent.[10]

One can argue that Republicans concentrate on inflation when they take office because it is the most serious macroproblem the country faces at the time, and for

[10] Hibbs (1987, pp. 224–32). See also Hibbs (1994, Table 1, p. 4).

the same reason the Democrats concentrate on unemployment. But since Republicans take over from Democrats, and Democrats from Republicans, this observation hardly contradicts the partisan-bias hypothesis. Particularly revealing in this regard is the performance of the Reagan administration. One can argue that both unemployment (7.1 percent) and inflation (12.4 percent) were serious problems when Reagan took office. But it was inflation that received the highest priority. By the administration's second year the inflation rate had been cut by more than two thirds, while unemployment had risen to its highest level since World War II, 9.5 percent. It was six years before the unemployment rate fell below the level when Reagan took office.

A similar dichotomy is apparent in other countries. Hibbs (1977) presents data on unemployment and inflation rates for 12 Western democracies (Belgium, Canada, Denmark, Finland, France, Italy, the Netherlands, Norway, Sweden, the United Kingdom, the United States, and West Germany) and compares them with the percentage of time from 1945 to 1969 in which Socialist-Labor parties were in office. The correlation between left-of-center control and unemployment is −0.68. The correlation between left-of-center control and inflation is +0.74 (see also Beck, 1982b; Beetsma and van der Ploeg, 1996; Oatley, 1999).

These differences in performance in dealing with unemployment have not gone unnoticed by voters. In the United States, those who are more personally affected by unemployment, or who regard unemployment as a serious national issue, are more likely to vote Democratic, ceteris paribus (Kiewiet, 1981, 1983; Kuklinski and West, 1981). In Germany, high unemployment increases the percentage of the vote going to the left-of-center Social Democratic Party (Rattinger, 1981). In France, high unemployment increases the share of votes going to left-of-center parties, which are in opposition; high income lowers their share (Rosa, 1980).

Thus, competition for votes does not lead competing parties to converge on the same target with respect to unemployment and inflation rates. The prediction of a simple form of the median voter theorem applied to macroeconomic policy is not supported. What accounts for this observation?

One possible explanation is that the distribution of voter preferences is not unimodal. Hibbs has emphasized the importance of economic class in explaining voter support for political parties and the link between this support and macroeconomic policies. The existence of significant class distinctions might be interpreted as resulting in either a bi- or multimodal distribution of voter preferences with respect to unemployment and inflation. If voters abstain from supporting a party whose position is too far from their most favored position, competition for votes can pull party platforms away from one another, toward the modes in the distribution (see Downs, 1957, pp. 118–22; Davis, Hinich, and Ordeshook, 1970; and Chapter 11 of this volume). The threat of abstention is likely to be particularly effective in parliamentary systems with proportional representation, as the voter often has party options on both the left and the right of a given party, and new parties can more easily form than in the United States. Thus, one finds European parties to be more ideological than the two U.S. parties, and voters more closely tied to their parties (for example, Hibbs, 1982c).

A second explanation is that party platforms and the identities of candidates are determined by party activists, and these activists tend to be drawn more from the tails of the distribution of voters than from the center.[11]

19.4.3 *Which theories fit the data best?*

Since the opportunistic PBC models predict that both parties behave identically, the evidence reviewed in the previous subsection would appear to make them non-starters. Nevertheless, we shall consider their predictions and the evidence in support of them along with the two leading partisan PBC models.

Each model makes fairly specific predictions about the patterns of unemployment, inflation, and growth over the electoral cycle. Before discussing the econometric support for each, it is useful to compare their predictions with the experience for the United States. In Table 19.5 I have summarized the predictions of each hypothesis. Because the rational-voter, opportunistic PBC model only predicts policies around the time of the election, I have omitted it from consideration here. The Nordhaus/MacRae (NM) model predicts the same pattern, of course, regardless of which party is in office – rising unemployment until a peak is reached in the second year of the cycle and then a decline so that the party goes into the election with unemployment at its minimum.

Hibbs' partisan PBC predicts continually falling unemployment under the Democrats, and continually rising unemployment under the Republicans.[12]

The Alesina/Rosenthal model makes such strong predictions that it is difficult to make a fair comparison with the other two models. In terms of growth rates it predicts growth at the same, natural rate in the last two years of both types of administrations, with faster growth for the Democrats and slower for the Republicans in the first two years.[13] Since unemployment adjusts slowly, I have translated these predictions into an upward movement in unemployment under a Republican administration peaking in the second year, and then declining to the natural rate of unemployment and the exact opposite pattern for a Democratic administration. This pattern matches the pattern of changes in GDP estimated by Alesina and Roubini with Cohen (1997, Figure 4.1, p. 76) and would thus seem to be a reasonable depiction of this class of rational PBC models.[14] Note that when the Republicans hold the White House, the Nordhaus/MacRae PBC model and the Alesina/Rosenthal model make essentially the same predictions.

With the Alesina/Rosenthal model there is the additional complication of specifying the natural rate of unemployment. Up through the 1960s *full* employment was often thought to be around 4 percent. Once stagflation set in during the 1970s some economists raised their estimate of this figure to as high as 6 percent. The

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[11] For further discussion of this and other explanations for why parties choose separate policy positions see Alesina and Rosenthal (1995, pp. 40–1).

[12] Of course, if several Democratic administrations followed one another, unemployment would eventually have to stop falling.

[13] See Alesina and Rosenthal (1995, pp. 171–8, and especially Figure 7.1 on p. 175).

[14] The pattern I depict for the Alesina/Rosenthal model is, however, *not* the one suggested by Paldam (1997, p. 355).

Table 19.5. *Scores for political business cycle models*

Year	Y1	Y2	Y3	Y4			
Model	Democrats						
NM election cycle	Up	Max	Down	Min			
Hibbs partisan cycle	Max	Down	Down	Min			
AR partisan cycle	Down	Min	Up	Natural			
						Scores	
Administration	Unemployment				NM	Hibbs	AR
Truman, 1949–52	5.9	5.3	3.3	3.0	3	4	0
Kennedy/Johnson, 1961–4	6.7	5.5	5.7	5.2	2	3	1
Johnson, 1965–8	4.5	3.8	3.8	3.6	2	4	2
Carter, 1977–80	7.1	6.1	5.8	7.1	1	3	1
Clinton, 1993–6	6.9	6.1	5.6	5.4	2	4	1
Clinton, 1997–2000	4.9	4.5	4.2	$(4.0)^a$	2	4	2
Totals	average 4.7				12	22	7
Year	Y1	Y2	Y3	Y4			
Model	Republicans						
NM election cycle	Up	Max	Down	Min			
Hibbs partisan cycle	Min	Up	Up	Max			
AR partisan cycle	Up	Max	Down	Natural			
						Scores	
Administration	Unemployment				NM	Hibbs	AR
Eisenhower, 1953–6	2.9	5.5	4.4	4.1	2	2	3
Eisenhower, 1957–60	4.3	6.8	5.5	5.5	3	2	3
Nixon, 1969–72	3.5	4.9	5.9	5.6	0	3	0
Nixon/Ford, 1973–6	4.9	5.6	8.5	7.7	0	3	0
Reagan, 1981–4	7.6	9.7	9.6	7.5	4	1	3
Reagan, 1985–8	7.2	7.0	6.2	5.5	2	0	1
Bush, 1989–92	5.3	5.6	6.8	7.5	0	4	0
Totals	average 6.2				11	15	10
Totals both parties					23	37	17

^{a} Preliminary.

Source: Council of Economic Advisors, Economic Report of the President. Washington, D.C.: U.S. Government Printing Office, 1989, 2000.

performance of the economy during the 1990s suggests that the 4 percent figure is in fact more appropriate. To define the natural rate of unemployment as any level between 4 and 6 percent would seem to rob the concept of all predictive value. Thus, for the purpose of comparison, I have defined the natural rate as anything between 4 and 5 percent.

The farthest right-hand-side columns in Table 19.5 give the scores on how many times the predictions of each model match the unemployment figures to the left.

Consistent with the picture painted by the figures in Table 19.4, the predictions of Hibbs' partisan model fit the data best. Unemployment tends to fall when the Democrats are in the White House, and rise when the Republicans occupy it.

The NM and AR models perform about the same under Republican administrations, of course, because they make the same predictions. Interestingly, although the original PBC models of Tufte and Nordhaus were probably inspired by the actions of the first Nixon administration – if "inspired" is the proper word – the performance of the economy during the two Nixon administrations does not match the predictions of the NM model in any year. The only perfect match to the NM model comes during the first Reagan administration.[15] In contrast, Hibbs's model perfectly characterizes the patterns of unemployment under four Democratic administrations and one Republican.

The AR model's relatively poor performance is in part due to the strong predictions it makes – in particular that under both types of administrations the economy grows at the same, natural rate over the last two years in the electoral cycle. I have interpreted this to imply that the unemployment rate reaches its natural level (4.0 to 5.0 percent) in the final year of an electoral cycle. A more generous range for the natural rate – 4.0 to 6.0 percent – would add five points to the AR model's score, raising it to rough equality with the NM model. But the difference in performance of the economy under the Democrats and Republicans observed in the last year of each electoral cycle is, I believe, a big strike against the AR model. It predicts identical performance under each party in the fourth year of an electoral cycle, where in fact the average unemployment rate under Republican administrations was 6.2 percent in this year, a full 1.5 percentage points above the mean under the Democrats.[16]

Table 19.5 presents the predictions of each hypothesis in their starkest form, and none of the authors of the different models would accept my characterization of their model. The pattern predicted by Alesina and Rosenthal, for example, depends in part on the degree of surprise over the outcome of the presidential election. Nordhaus' (1989) most recent formulation of a PBC model integrates partisan aspects into it. Hibbs's (1994) most recent formulation of a partisan model allows the goals of the parties in office to adjust to realized economic outcomes. Nevertheless, I think it is useful to observe the differences and similarities of the different models, and how well they match the gross patterns of economic change that have occurred, before considering the econometric evidence.

No government could manage the economy perfectly to produce just the levels of unemployment and inflation that it wanted at each stage in the electoral cycle. Unemployment and inflation rates in the United States since World War II have been affected by the Korean and Vietnam wars, the oil price increases of the 1970s, and still other shocks. A proper testing of each model requires an explicit formulation and rigorous econometric tests. Each set of authors has conducted such tests, and

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[15] It is also interesting to note that when Nordhaus (1989) returns after more than a decade to examine how his PBC model stacks up against its new competitors, he concentrates on data from the Reagan years.

[16] The Alesina/Rosenthal model would fare somewhat better if we used growth in income as our performance measure – somewhat worse if we used price changes. See Drazen (2000, pp. 260–8).

Table 19.6. *Studies testing the PBC of Nordhaus and MacRae*

Support for	Against
Lächler (1978)	McCallum (1978)
Tufte (1978)	Golen and Poterba (1980)
Maloney and Smirlock (1981)	Dinkel (1982)
Richards (1986)	Beck (1982a,b,c)
Pack (1987)	Brown and Stein (1982)
Keil (1988)	Alt and Chrystal (1983)
Haynes and Stone (1989)	McGavin (1987)
	Lewis-Beck (1988)
	Berger and Woitek (1997)

each has found support for his/their version of the PBC model.[17] A full analysis of the empirical work of each author would require at least another chapter, if not another book. An alternative strategy is to examine how each type of model has fared in the hands of other scholars.

Unfortunately, only the opportunistic PBC of Nordhaus and MacRae has been subjected to extensive testing by other researchers. The results split right down the middle. Table 19.6 lists a sampling of studies on both sides of the divide.

Hibbs uses three kinds of evidence to support his partisan theory: (1) systematic differences in policy choices by left- and right-of-center parties, (2) systematic differences in policy outcomes under left- and right-of-center parties, and (3) voter response functions of the type presented in (19.1) in which voters exhibit fairly long memories (n) with relatively high weights (λ) placed on policy outcomes early in an electoral cycle. We have already amply illustrated the support for the theory that falls in the first two categories. We discuss the evidence pertaining to category (3) below.[18]

Since the rational voter models of Alesina (1987) assume the same sorts of partisan policy differences as Hibbs does, much of the evidence in support of the Hibbs model can also be interpreted as support for the rational/voter, partisan model. The key difference between the two comes in the *timing* of the policy changes. In the Alesina models all of the action comes in the first two years of the electoral cycle. Indirectly Paldam (1979, 1981b) was the first to provide support for this model – almost a decade before it was formulated – when he noted in trying to test the NM model that the biggest changes in the main variables came during the first two years following an election, and that these changes did not generally match the predictions of the NM model.

Alesina and Rosenthal (1995, pp. 178–87) and Alesina and Roubini with Cohen (1997, pp. 83–93) provide still more evidence. As an example consider the following regression results of Alesina and Roubini with Cohen (1997, p. 92):

$$U_t = .27^{**} + 1.66^{**}U_{t-1} - .89^{**}U_{t-2} + .19^{**}U_{t-3} + .13^{**}DR6$$
$$+ .01DR6+, \tag{19.3}$$

$$R^2 = 0.96.$$

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[17] See Nordhaus (1975, 1989); Hibbs (1977, 1986, 1987, 1992, 1994); Alesina and Sachs (1988); Alesina and Rosenthal (1995); and Alesina and Roubini with Cohen (1997).

[18] See also Beck (1982b) and Swank (1993) in support of the partisan model.

The equation is estimated with quarterly data over the period 1947:1 through 1993:4. The unemployment rate is significantly related to unemployment lagged over three quarters and to a dummy variable, DR6, that is a one for the second through seventh quarters of a Republican administration (** indicates significance at the 1 percent level). Equation (19.3) predicts unemployment to be significantly higher over roughly the first half of a Republican administration. The rational partisan model predicts no significant differences in unemployment between administrations over the last two years of the electoral cycle. DR6+ is a dummy variable, which is a one for quarters eight and above during a Republican administration. Alesina and Roubini with Cohen predict a zero coefficient for this variable, but argue that if Hibbs is correct, the coefficients on DR6 and DR6+ should be the same. They clearly are not the same, and this can be interpreted as evidence in favor of the Alesina/Rosenthal/Roubini/Cohen version of the partisan politics model.

On the other hand, inspection of Table 19.5 reveals that unemployment usually does continue to fall during the last two years of a Democratic administration, although perhaps at a dampened rate. Such dampening of the effects of partisan economic policies over the course of an electoral cycle is quite consistent with the early version of the Hibbs model, in which each party tries to reach a different location along a Phillips curve like the one depicted in Figure 19.1. If a Democratic administration takes office when unemployment is high and inflation is low, the initial impacts of its stimulation policies will produce large declines in unemployment at modest costs of inflation. As the economy moves up along the Phillips curve, however, each reduction in unemployment comes at a greater cost of higher inflation; the predicted declines in unemployment under a Democratic administration should become smaller, the farther into the electoral cycle it is. The reverse sort of dampening effect can be expected as a Republican administration moves down along the Phillips curve.[19]

19.4.4 *Additional evidence for the Alesina/Rosenthal model*

Alesina and Rosenthal's book is an ambitious effort to model the behavior of American voters and the interplay between Congress and the president on macroeconomic policy. In addition to making rather precise predictions about the patterns of economic growth and inflation over an electoral cycle, they make several predictions about how citizens will vote.

One interesting aspect of their theory is that it implies that for *some* voters divided government is an intended outcome and therefore that they will try and bring it about. A large group of voters with preferences between points L and R in Figure 19.5 will try to bring about a division in control over Congress and the White House in the hopes of obtaining a macroeconomic policy falling between these two extremes. One way to do this is to split their vote in a presidential election between a presidential candidate of one party and congressional candidate(s) of the other party. A plus

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[19] See Hibbs (1992, pp. 369–70; 1994). For an early and unsupportive test of the rational partisan model, see Sheffrin (1989), and for a more recent one Heckelman (2001).

for the Alesina/Rosenthal theory is that it gives a rational voter account of this seemingly schizophrenic behavior.

A second plus comes in accounting for the midterm cycle. The share of the national vote going to the party of the president has declined in 19 of the 20 midterm elections since 1918 (see Figure 19.6).[20] Alesina and Rosenthal's (1995, ch. 4) account for this phenomenon is that voters are uncertain about the identity of the next president when they vote in a presidential election, but not when they vote in a midterm election. Thus, a middle-of-the-road voter *knows* at a midterm election that she must vote against the president's party in the congressional races to balance the strength of the White House, and this explains the midterm cycle. None of the other PBCs offers an explanation for this cycle, and thus this clearly supported prediction must be recorded as a big plus for the Alesina/Rosenthal theory.

Nevertheless, one must note that not all of the swings in voter support in midterm elections line up quite as nicely as Alesina and Rosenthal might like. Their model predicts *no* midterm cycle if the voters are certain of the outcome in the preceding presidential election. One expects, therefore, the biggest swings at midterm following the most uncertain presidential contests. No election outcome in the twentieth century was a bigger surprise than Harry Truman's victory in 1948, but the midterm swing in 1950 was roughly equal to the mean swing. Roosevelt's landslide win in 1936 must have been well anticipated, and yet it was followed by the second biggest swing over the period examined. All in all, however, the data on midterm cycles must be regarded as offering good support for the Alesina/Rosenthal theory.

Less successful is their attempt to explain voters' decisions in presidential elections as rational responses to judgments about the competence of the incumbent party. The data reject this formulation of the model and Alesina and Rosenthal (1995, p. 206) are forced to conclude that "the assumption of voter rationality is put into question by our results in the sense that *the American electorate seems to place 'too much' weight on the state of the economy in the election year when choosing a president*" (emphasis in the original).

19.4.5 *Discussion*

The seemingly irrational voter behavior described by Alesina and Rosenthal in the closing sentence of the previous subsection is, of course, precisely the kind of behavior that the Nordhaus/MacRae model presumes. Although this model has been subject to the most intense empirical scrutiny of all PBC models, and has the longest list of authors who reject it, one still gets the impression when reading through this literature that it is not totally at odds with the data. A more naive hypothesis about opportunistic political behavior than the one modeled by Nordhaus and MacRae would be that presidents try to improve the state of the economy going into election years. The literature on short-term changes in expenditures, transfers, taxes, and monetary policy reviewed earlier offers ample support for this hypothesis. A further

[20] Writing in the early 1990s Alesina and Rosenthal could claim that their prediction of a midterm loss for the president's party was *always* confirmed. But the 1998 election destroyed this perfect record.
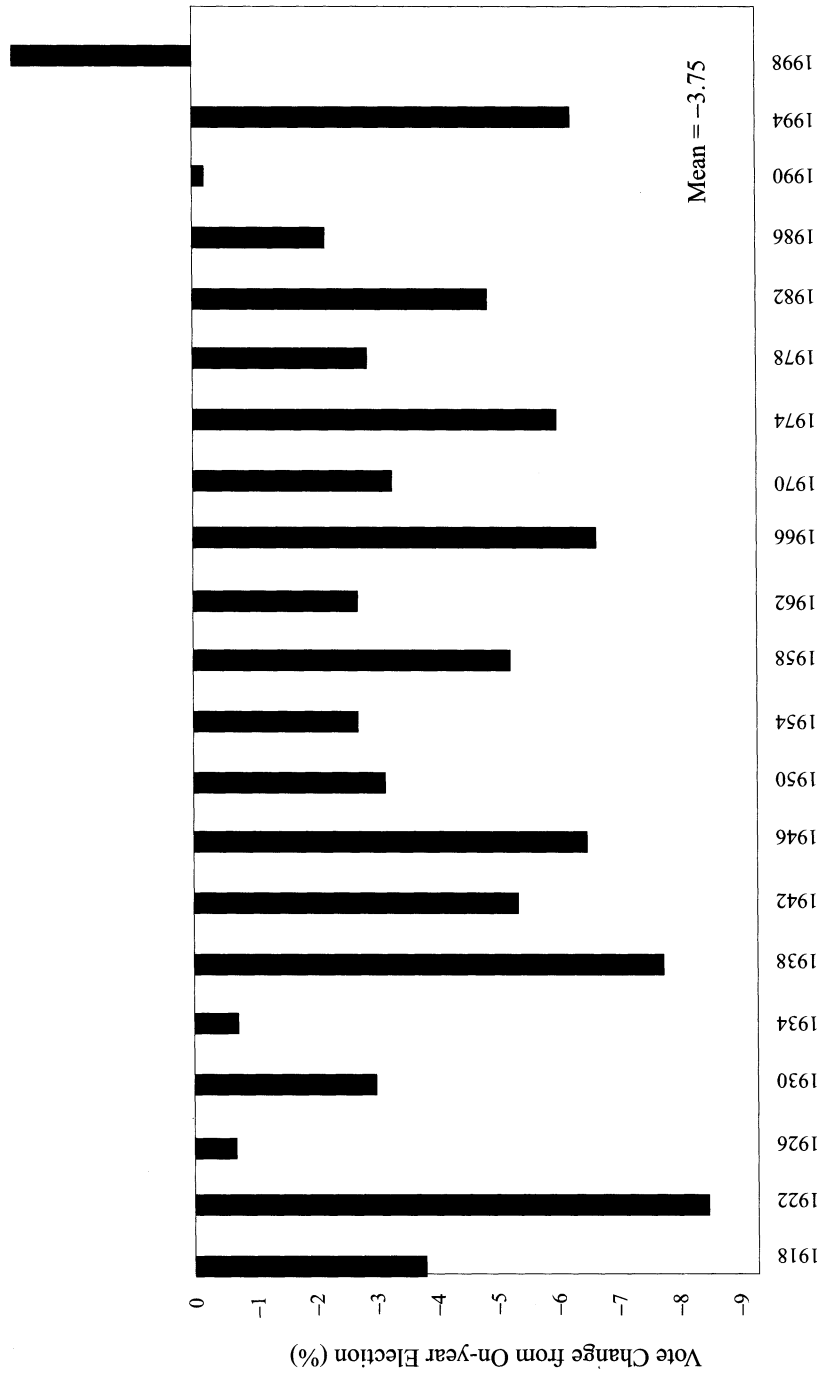
Figure 19.6. The midterm cycle, 1918–96. The graph shows the change in the vote share of the president's party.
Source: Alesina and Rosenthal (1995, p. 84) for elections through 1990; Statistical Abstract of the United States, 1995, 1999 for the 1994 and 1998 elections.

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glance at Table 19.5 reveals that unemployment fell between the third and fourth years of ten of the thirteen presidential terms since 1948 and remained unchanged in one other. On the two occasions when it rose a president standing for reelection lost – Carter in 1980 and Bush in 1992. It is easy to reach the conclusion from these figures that presidents try to lower unemployment when going into an election, and are well-advised to do so.

The opportunistic PBC model predicts that both parties adopt the same set of macroeconomic policies. In his fierce bombardment of Kramer's (1971) article Stigler (1973) dismissed Kramer's findings in part because "there is no difference between the Republicans and Democrats with respect to the ardent pursuit of high levels of employment and high and steady rates of growth of real income." Empirically this must be one of the *least* well-founded of all of the great Stigler's observations. The evidence reviewed earlier indicates unequivocally that these two parties, and parties of the left and right in many other countries, generally pursue different goals and produce different macroeconomic outcomes.

What then are we to conclude from this evidence? Which model fits the data the best? One clear loser is the strong form of the rational expectations model, which predicts that governmental economic policies cannot affect real economic variables, because these policies are accurately anticipated and fully discounted. Democratically elected governments do not appear to believe that it is futile to try and alter unemployment and growth through macroeconomic policies. And the evidence suggests that each party in office does have some success in achieving its ideological goals.

With respect to the competing PBC models, there appears to be empirical support for both an opportunistic PBC and one which emphasizes partisan differences. Yet the premises upon which these two sets of models rest are quite different. The opportunistic PBC models follow Downs (1957, p. 28) in postulating that "parties formulate policies in order to win elections, rather than win elections in order to formulate policies." The partisan PBC models in contrast "assume that parties win elections in order to formulate policies" (Chappell and Keech, 1986, p. 881; see also Alesina and Rosenthal, 1995, pp. 16–19). A more fundamental difference in starting points would not seem possible. But perhaps both starting points are partly correct. Downs defended his assumption with the argument that a party could not pursue any goal if it did not win the election first. The fact that winning an election is a necessary condition for the pursuit of any additional goals may help explain why some politicians at some points in time undertake opportunistic actions to win elections.

Having won an election, a party may feel free to implement some of its ideological goals, and its sense of freedom may vary with the size of its electoral victory, its lead in the current polls, and the time to the next election. Each behavioral assumption may accurately characterize the motivation of different parties at different points in time.

One of the pioneering contributions to the PBC literature made exactly this sort of assumption. Frey and Lau (1968) posited that left-wing governments would spend more and right-wing governments less when their popularity was high, but

that both would try to lower unemployment and expand national income as the election approached and/or their popularity fell below a critical value (assumed in empirical work to be 52 percent approval). Lower average unemployment rates and higher average inflation rates for left-of-center governments emerge from the Frey Lau model as a consequence of their ideological predilection to greater spending. Opportunistic behavior by incumbents would also be observed on at least some occasions. Empirical support for variants on this model, modified to capture country-specific economic and institutional factors, was presented for the United States (Frey and Schneider, 1978a), the United Kingdom (Frey and Schneider, 1978b, 1981a), West Germany (Frey and Schneider, 1979), and Australia (Schneider and Pommerehne, 1980; Pommerehne and Schneider, 1983). Some of the empirical findings were challenged, however (e.g., Chrystal and Alt, 1981), and the model seemed to have been discarded along with the other, early PBC models.

The model has, however, been recently rediscovered by a number of authors who have both improved upon the original formulations of it, and provided further empirical support (Blais and Nadeau, 1992; Davidson, Fratianni, and von Hagen, 1992; Carlsen 1997; Price, 1997). Davidson et al., for example, present a *satisficing* model with partisan differences, but in which a presidential administration adopts polices to lower unemployment in the fourth year of an electoral cycle if unemployment rose during the third year. They find support for their model using data for presidential elections back to 1916.

Any model that mixes ideological goals and opportunistic behavior, substitutes satisfying for maximizing behavior, myopic for rational expectations, and the like, is vulnerable to that most devastating of all criticisms – that it is *ad hoc*. My dictionary defines "ad hoc" as being "concerned with a particular end or purpose." The particular end or purpose to which this literature is concerned is explaining the impact of politics on macroeconomic variables, and the feedback of the macroeconomy back onto political outcomes. If a model that assumes steadfast maximizing and forward-looking, rational behavior does not explain all of the data, then perhaps one or more of these assumptions must be relaxed. My reading of the empirical results obtained so far suggests that some hybrid model of the polar alternatives fits the data best.

19.5 Voter behavior

19.5.1 *Myopic, retrospective, rational*

The different PBC models make quite different assumptions about the kind of information voters use when deciding how to vote, ranging all the way from a highly myopic voter who only considers the state of the economy just before she votes to a highly rational voter who at most uses recent economic performance to judge a party or administration's competence and to predict its likely future performance. In between these polar extremes is the rationally retrospective voter who ensures that her agents in government will perform their duties well into the future by rewarding good performance in the past.

The evidence in favor of some form of retrospective voter hypothesis consists of both survey studies, which ask voters questions about how their choices are formed, and the many vote- and popularity-function studies. As Tables 19.1 and 19.2 suggest, there is a great deal of support for the retrospective voter hypothesis from the latter sorts of studies. The main remaining issue in these studies would appear to be how much weight events in the distant past get relative to the recent past. Some studies like Fair (1978), Nordhaus (1989, pp. 28–39), and Borooah and Borooah (1990) suggest that only the current or more recent values of unemployment, inflation, and so on are important in explaining the vote for or popularity of a president.

Others like Hibbs (1982c, 1987, 2000) and Peltzman (1990) have estimated positive and economically meaningful weights on past performance over essentially the full electoral cycle. In considering his results for presidential elections, for example, Peltzman (1990, p. 42) drew the following conclusion: "These results are inconsistent with the notion that voters myopically weight only the most recent experience . . . the peak total weight never occurs before a two-year lag and usually occurs at a four year lag." I have included in Table 19.1 the estimates for the four-year lag.

Hibbs (2000) also reaches the conclusion that the data from the entire 48 months running up to an election are evaluated by voters when they cast their ballots. His estimate of 0.95 for λ in equation (19.1) implies, of course, very little decay in the weights given to past economic events. If one models voter decisions using (19.1) and one assumes that the parameters are stable over time – a rather big if, in this case, since parameter stability has not been one of the hallmarks of this literature – then the coefficient on a lagged dependent variable in a vote or popularity function with current values of the other variables included becomes an estimate λ. A glance back over the figures in Tables 19.1 and 19.2 reveals that several of the λs estimated in this way are also quite large – although, of course, several are also fairly small. Whereas all studies do not support the extreme positions of Peltzman and Hibbs, there is certainly additional evidence on their side in some of these other studies.

A few studies using cross-sectional panel data have found that expectations about financial conditions perform better in explaining voter decisions than current or past levels (Kuklinski and West, 1981; Hibbing, 1987). These findings offer support for the rational voter assumption. Unfortunately, however, these studies appear to be the exception rather than the rule. The safest generalization from this literature would seem to be that some form of the retrospective voter hypothesis receives the most support from the data, with some residual uncertainty over how far into the past voters look when making their choices.

19.5.2 *Sociotropic or egotropic*

The vote- and popularity-function studies use aggregate measures of inflation and so forth to explain how individuals vote or their opinions. Do people downgrade an administration that produces high inflation because they personally have been harmed by the inflation or because they regard high inflation as bad for society? After a careful analysis of survey responses Kinder and Kiewiet (1979) concluded that individuals rate presidents poorly because of high inflation or unemployment,

and because of a concern about what is good for the country. That is, a person may vote against a presidential candidate because she thinks the country has been harmed by his policies, even though she herself is personally better off.

This behavior has come to be known as *sociotropic* voting in contrast to *egotropic* voting where the voter is only concerned about his own economic circumstances. Kinder and Kiewiet's study produced a sharp critique from Kramer (1983), but their findings have generally been substantiated with larger data sets for both the United States and other countries (Kinder and Kiewiet, 1981; Hibbing, 1987; Lewis-Beck, 1988; Markus, 1988). Some studies have, however, found *both* a voter's personal economic position and her perceptions of the nation's problems to be significant in explaining her party preferences (Fiorina, 1978, 1981; Kiewiet, 1981, 1983; Kirchgässner, 1985).

19.6 Politics and inflation

19.6.1 *Hypotheses*

In Section 19.2.1 we described a scenario in which party competition for votes leads to a stable PBC as hypothesized by MacRae (1977). This model assumes the existence of an L-shaped Phillips curve as depicted in Figures 19.1 and 19.2, however. The existence of such *long-run* trade-offs is now generally rejected in favor of a Phillips curve that is a vertical straight line, as in Figure 19.7. Even in the absence of any long-run trade-off, it still might be possible to "fool" economic agents temporarily. Suppose, for example, that the government can adopt short-run economic policies such that if it starts from point M it can reduce unemployment by moving out along $S_1 S_1$ to point 1. A vote-maximizing government faced by myopic voters
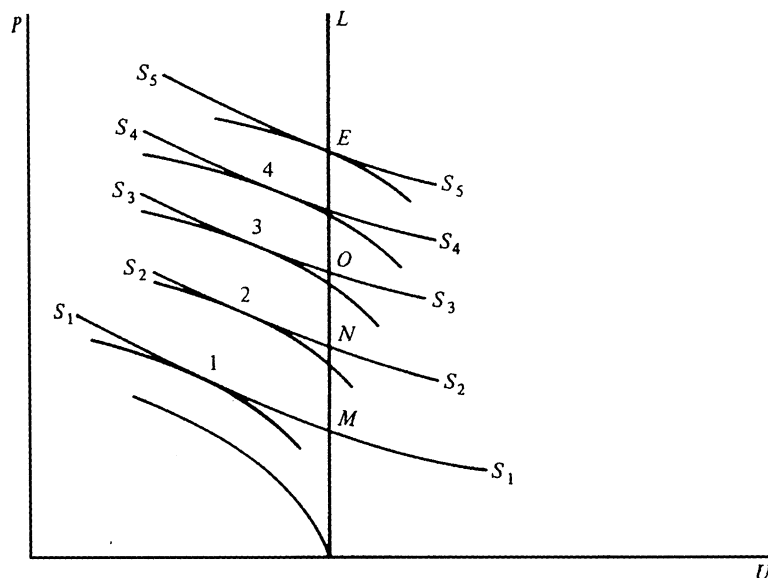

Figure 19.7. Equilibrium in the absence of a Phillips curve.

could then increase its chances of winning in the short run by going to point 1. Economic agents would then adjust their expectations of future inflation rates upward and one would return to LL at some higher point, N. If a new government could again surprise economic agents, the economy would move to point 2, and then, say, to O. As long as governments can find new ways to fool economic agents, the inflation rate would drift upward until some point like E was reached where inflation got so high that no short-run gains from reducing unemployment could be obtained, or until economic agents could no longer be fooled. This dynamic version of the PBC sees inflation steadily rising over time and eventually settling into a permanently high level (Nordhaus, 1975).

The preceding scenario relies upon a degree of voter myopia. Politics can introduce an inflationary bias into economic outcomes even without voter myopia, owing to the "time inconsistency problem" (Kydland and Prescott, 1977). To see what is involved, assume again the existence of a long-run vertical Phillips curve as in Figure 19.7. All citizens would prefer to be at point M along the curve than at higher points, and a vote-maximizing government that could commit itself to a set of macropolicies would promise this combination of unemployment and inflation. But because governments cannot truly commit to keep their promises, economic actors must always anticipate that a government will opportunistically attempt to stimulate the economy and produce temporarily lower levels of unemployment at the cost of higher future levels of inflation. Thus, when negotiating wage contracts workers will not demand wage increases based on the expectation that the inflation will be as represented at M, but will build into their demands the higher inflation rates that the opportunistic government would in the long run produce. Thus, the government does not go into an election at point M, but rather already at E, and its options to behave opportunistically are foreclosed. The economy experiences permanently higher inflation rates because of the government's inability to commit to more responsible macroeconomic policies.

19.6.2 The facts

Table 19.7 presents inflation and unemployment rates, and government deficits as a percentage of gross domestic product, for those major industrialized countries for which fairly complete data were available from 1951 to 1998. Two things stand out in the numbers for inflation: a great deal of variation across countries at any one point in time, and a dramatic acceleration in inflation rates across all countries beginning in the early 1970s. This acceleration was due in part, of course, to the OPEC oil price increases. But the direct impact of the increases in oil prices on country inflation rates was far smaller than the changes that occurred, and the higher levels of inflation in some countries lasted well into the 1980s, long after oil prices had collapsed. Why did Austria, Germany, and Switzerland's inflation rates return to roughly their pre-oil shock levels by the early 1980s, while in Denmark, Finland, Spain, and Sweden they remained at roughly double their pre-shock levels? Why did Israel experience such tremendously high levels of inflation over much of the post–World War II period?

Table 19.7. *Government deficits, inflation, and unemployment rates for 23 industrial countries, 1951–98*

Country	1951–5			1956–60			1961–5			1966–70			1971–5		
	D[a]	P	U	D	P	U	D	P	U	D	P	U	D	P	U
Australia	1.5	9.1	.	0.6	2.9	a	−1.7	1.8	.	−1.5	3.2	1.5	−0.4	10.3	2.5
Austria	−0.2	9.3	7.2	−1.8	2.0	4.8	−1.4	4.0	2.8	−2.0	3.2	2.7	−2.1	7.3	1.8
Belgium	.	2.2	10.5	−4.1[b]	1.8	7.6	−2.7	2.5	3.0	−2.4	3.4	3.5	−3.5	8.5	4.1
Canada	0.9	2.6	3.5	−0.9	1.9	5.6	−0.9	1.6	5.4	−0.5	3.9	4.6	−2.1[b]	7.4	6.1
Denmark	−0.7	4.5	9.8	0.9	2.4	6.5	1.0	5.0	3.4	1.3	5.0	3.4	1.4	9.3	2.6
Finland	0.2	3.2	.	0.0	6.8	2.3[b]	−1.4	8.4	1.4	−0.1	4.6	2.6	0.6	11.8	2.2
France	−4.7	5.8	.	−3.1	4.6	.	−1.1	3.7	.	−0.5	4.5	.	−1.2	8.9	.
Germany	0.6	2.0	7.4	−0.6	1.8	2.9	−0.4[b]	2.8	0.7	−0.5	2.7	1.2	−2.1	6.1	2.1
Greece	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iceland	0.8[b]	7.4	.	0.1	6.0	.	0.8	10.9	.	.	12.3	3.8[b]	−4.2[b]	26.2	0.5
Ireland	−6.3	4.9	8.2	−4.0	2.7	8.0	−6.0	4.2	5.8	−5.7	5.3	6.6	−8.5	13.4	8.5
Israel	.	21.0	.	−5.2	4.0	.	−6.9	7.1	3.4	−17.1	4.1	6.4	−18.9	24.8	3.0
Italy	−4.1	4.2	9.6	−2.1	1.9	8.9	−2.6	4.9	4.7	−3.4	3.0	5.6	−11.3[b]	11.5	5.9
Japan	.	6.4	1.3	1.4	1.9	1.3	−0.8	6.2	1.3	−1.2	5.5	1.2	−2.5	11.7	1.4
Netherlands	1.8	3.6	2.3	0.3	2.7	1.5	−1.0	3.4	0.9	−2.4	5.0	1.5	1.1[b]	8.7	3.0
New Zealand	−2.4	7.1	.	−3.3	2.9	.	−3.6	2.7	.	−2.5	3.4	.	−4.4	10.3	.
Norway	−2.9[b]	6.3	1.3	−1.4	2.8	1.8	−1.0	4.1	1.4	−2.0	5.0	0.9	−2.9	8.4	1.0
Portugal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spain	.	2.9	.	.	8.3	.	−1.0	5.4	1.7[b]	−1.8	5.1	1.0	−1.2	12.1	2.5
Sweden	−1.3	2.6	2.4	−2.0	3.7	1.9	0.2	3.7	1.5[b]	−2.0	4.4	1.9	−3.8	8.0	2.3
Switzerland	0.1	1.7	0.8	0.8	1.2	.	0.3	3.2	.	0.0	3.5	.	−0.6	7.7	.
United Kingdom	−2.3	5.4	1.6	−0.3	2.7	1.8	−0.3	3.1	1.8	−0.3	4.6	2.2	−4.9	13.2	3.2
United States	0.0	2.2	3.7	−0.4	2.2	5.2	−0.8	1.3	5.5	−0.9	4.2	3.9	−1.8	6.6	6.1
Average (omitting Israel through 1990)	−1.1	4.7	5.0	−1.0	3.4	4.3	−1.2	4.5	3.0	−1.5	4.6	2.8	−2.8	10.8	3.3

(*continued*)

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Table 19.7 (continued)

Country	1976–80			1981–5			1986–90			1991–5			1996–8		
	D[a]	P	U	D	P	U	D	P	U	D	P	U	D	P	U
Australia	-3.1	10.6	5.8	-2.3	8.3	7.9	0.6	9.3	7.3	-2.2	2.3	9.9	-0.3[b]	1.2	8.4
Austria	-5.0	5.3	2.0	-4.4	4.9	3.7	-4.5	2.3	5.3	-4.9	2.9	6.3	-4.1[b]	1.4	7.1
Belgium	-6.7	6.4	8.2	-11.9	7.0	11.0	-7.0	2.2	9.7	-5.2	2.9	12.5	·	1.6	13.2
Canada	-4.0	8.8	7.7	-5.4	7.2	8.5	-3.2	4.9	8.4	-4.0[b]	3.3	10.6	·	1.4	9.1
Denmark	-1.0	10.4	6.4	-6.6	7.9	9.8	2.0	4.2	8.8	-1.8	2.3	11.4	·	1.3	7.7
Finland	-1.6	10.8	5.7	-1.5	9.6	5.9	0.2	5.5	4.4	-11.0	2.0	14.8	-6.2[b]	1.1	14.1
France	-1.8	10.5	·	-3.1	8.4	8.7	-2.2	3.3	9.9	-4.7	2.7	8.9	-3.6[b]	3.3	12.2[b]
Germany	-3.5	4.0	4.2	-3.3	3.9	7.1	-1.1	1.4	8.5	-2.0	3.3	10.3[b]	-1.7[b]	1.4	12.2
Greece	·	·	·	-8.5	·	·	-11.3	24.5	7.4	-13.0	11.3	9.1	-9.8[b]	6.5	10.3[b]
Iceland	-2.7	42.2	0.4	-2.7	49.7	·	-2.8	30.0	1.0	-3.8	3.2	3.7	-0.6[b]	2.0	3.7
Ireland	-11.2	14.1	10.9	-13.2	12.4	14.8	-4.7	3.5	16.2	-1.1	2.3	16.2	0.4[b]	1.9	·
Israel	-13.8	65.2	3.8	-14.9	212.2	·	-4.4	58.2	7.6	-4.2	9.1	9.3	-4.0[b]	9.3	8.0
Italy	-11.5	16.4	7.3	-13.5	13.8	9.1	-11.1	6.4	11.7	-9.4	4.3	11.2	-3.7	2.7	12.2[b]
Japan	-6.8	6.6	2.1	-6.1	2.7	2.5	-3.0	1.4	2.5	0.1[b]	1.3	2.6	·	0.8	3.6
Netherlands	-3.6	6.1	5.3	-7.4	4.2	11.5	-4.4	0.7	9.1	-2.3	2.5	6.2	-1.2	2.1	6.0[b]
New Zealand	-5.9	14.8	·	-7.2	12.1	·	1.2[b]	12.8	5.7	1.4	1.9	8.9	4.7[b]	1.4	6.4[b]
Norway	-7.3	8.4	1.3	0.3	9.1	2.7	0.5	7.1	3.3	-2.9	2.2	5.5	5.1[b]	2.1	4.5[b]
Portugal	·	·	·	·	·	·	-6.7	14.2	5.5	-5.1	5.9	5.6	-2.3[b]	2.8	7.1[b]
Spain	-2.9	18.1	7.9	-6.3	12.4	17.8	-2.5	7.4	19.0	-4.7	4.5	20.9	-3.0	2.5	21.5[b]
Sweden	-4.9	10.5	1.9	-8.9	9.0	3.0	-0.3	6.0	1.8	-8.4	3.6	6.6	-1.5	0.3	7.5
Switzerland	-0.4	2.3	·	-0.3	4.3	·	4.3	2.6	0.7	-1.3	2.9	3.4	-0.8	0.4	4.6
United Kingdom	-5.6	14.4	6.2	-3.5	7.2	10.3	0.7	6.7	8.4	-4.6	3.1	9.2	·	3.1	6.0
United States	-2.9	8.9	6.7	-4.7	5.5	9.6	-3.6	4.1	5.9	-3.5	2.0	6.6	-0.2	2.3	5.0
Average (omitting Israel through 1990)	-4.6	11.5	5.3	-6.8	10.0	8.5	-2.7	7.3	7.6	-4.2	3.6	9.1	-1.8	2.3	8.7

Note: D = government deficit as percentage of Gross Domestic Product; P = percentage change of Consumer Price Index; U = unemployment rate. "·" signifies data missing.

[a] Deficit figures are for general government expenditures where available for most years, when not available for central government.

[b] Data for all five years were not available. Average is for the years that were.

Sources: Deficit, inflation, and recent unemployment data are from International Monetary Fund, *Financial Statistics*, October 1986, and Supplements on Economic Indicators, 1985, 1972, and *International Financial Yearbook*, 1999 (Washington, D.C.). Early unemployment data are from OECD, *Main Economic Indicators*, July 1983, 1986, January 1990, 1992 (Paris), and *Main Economic Indicators*, Historical Statistics, 1960–79, 1955–71 (Paris). United Nations, *Statistical Yearbook*, 1956, 1961, 1966, 1971, 1976, 1981 (New York).

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Partial answers to these questions have already been given in our discussions of the PBC and partisan politics. Some governments do expand the money supply just prior to elections; left-wing governments generally pursue looser monetary policies and produce higher levels of inflation. We now consider some additional explanations that focus in particular on the question of why economically similar countries often reveal such significantly different rates of inflation.

19.6.3 *Central bank independence*

The explanation for inflation based on the time-inconsistency problem assumes that the government cannot credibly commit *not* to try to produce short spells of low unemployment by meddling with the macroeconomy. The result is lower popularity for the government and lower welfare for society. A Pareto improvement is possible *if* the government can tie its hands to prevent it from meddling with the economy. The creation of an independent central bank (CB) may be one way to accomplish this outcome (Rogoff, 1985). The government, which is the agent of the citizens, effectively creates yet another agent to carry out a task that it is unable to carry out properly – namely, a low-inflation monetary policy.

But if the government cannot commit itself not to meddle with macropolicy in general, how can it credibly commit itself not to meddle with the CB? How can an institution created by and dependent on the government remain independent?

The problem is not unlike the problem of creating an independent judiciary, and one approach to creating central bank independence (CBI) has been to make its directorship something like a judgeship with long terms of appointment and salaries set by formula.[21]

A second form of protection of CBI arises in democratic systems with effective checks and balances. When authority over the CB is shared, and the seats of authority differ in their monetary policy objectives, each may block the other leaving the CB free to pursue its preferred monetary policy (Moser, 2000, chs. 10 and 11).

The ultimate protection of CBI is to write it into the constitution, so that it is effectively guaranteed by the (hopefully also) independent judiciary. This is de facto the route that the European Monetary Union took when it created the European Central Bank, although the member countries may still be able to exert some influence through the appointment process for directors.

Empirically CBI appears to be positively correlated across countries with indexes of political freedom and political stability (Cukierman, 1992; Cukierman and Webb, 1995; de Haan and van 't Hag, 1995; de Haan and Siermann, 1996; Bagheri and Habibi, 1998). The less secure a nation's political freedoms are and the more unstable its politics, the more likely it is that some party or party leader finds it advantageous to sweep aside the institutions protecting the CB's independence and print money to win public support.

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[21] For a discussion of the costs and benefits of this solution, see Waller and Walsh (1996). For a general discussion of creating independent and responsible governmental agents, see Mueller (1996a, ch. 19).

Numerous indexes of CBI have been constructed to determine whether CBI is related to price stability. The bulk of the studies find that it is, although whether a relationship is found and how strong it is depends on which measure of CBI one uses.[22] Moser (2000, pp. 146–50) finds that the lowest inflation rates are observed in countries like Germany and the United States, with both strong CBI and strong checks and balances on legislative action to reinforce CBI. These studies illustrate rather clearly the important role political institutions can play in insuring that political competition works to benefit citizens rather than to harm them.

19.7   Deficits

19.7.1   *The facts*

Table 19.7 presents budget deficit figures for most major industrial countries since World War II. As with the figures on inflation, considerable variation exists across countries. Nevertheless a general pattern is apparent. The first five-year period (1951–5) has more countries with government budgets in surplus than any other five-year period. The large deficits for France, Ireland, and Italy pull the average deficit up to slightly more than that for 1956–60. Starting with this five-year period, the average deficit rises steadily until by the early 1980s it is running at almost 7 percent of Gross Domestic Product (GDP). What is true of the average is also true of the individual countries. Over the first fifteen years of this period more than half of the countries either ran surpluses on average or had deficits of less than 1 percent of GDP. In the early 1980s only one country – Norway, with its huge oil revenues – ran a budget surplus. The average deficit has fallen since 1985, but it remains true that a substantial majority of the industrial countries continued to run deficits into the 1990s. Why did the pattern of government finances over the last fifty years shift to one in which governmental deficits have become the norm?[23] In the next subsection we present some hypotheses.

19.7.2   *Hypotheses*

19.7.2.1 *Fiscal illusion and Keynesian delusions.* Throughout the nineteenth and first half of the twentieth century voters held politicians responsible for keeping state finances in balance. Even FDR promised to balance the budget in his first campaign for the presidency. Then during the 1960s, Buchanan and Wagner (1977) argue the "Keynesian revolution" changed both economists' and the public's attitudes toward

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[22]   See Grilli, Dourato, and Tabellini (1991); Cukierman (1992); Alesina and Summers (1993); Havrilesky and Granato (1993); Al-Marhubi and Willett (1995); Cukierman and Webb (1995); and Iversen (1999). Banaian, Burdekin, and Willett (1998) have difficulty relating inflation rates to many of the measures of CBI proposed by Cukierman (1992). Of the eight different measures examined by Oatley (1999) a simple dichotomy between moderately strong and strong CBI, on the one hand, and weak CBI gave as good a fit as any other alternative.

[23]   Webber and Wildavsky (1986, ch. 5 and p. 562 ff.) claim that states have confronted the problem of their revenues falling short of their expenditures throughout their entire history.

debt. Since Americans held most of the federal government's debt, they were both creditors and debtors and, so it was argued, this implied that the public debt did not really impose any fiscal burdens on the population. The logic of Keynesian economics implied further that running deficits could be good for the economy because they stimulated economic activity and reduced unemployment.

The rational individual lacks the incentive to make superrational calculations of the consequences of government policies. A check in the mail, an announced cut in taxes, or a fall in the unemployment rate are easily noticed and much publicized manifestations of government policies. The future inflation or future tax liabilities that these policies foreshadow are dimly perceived shadows for most voters. Thus when they were told that deficits were in fact good for the economy citizens stopped punishing politicians for running them, and the competition for votes led to an imbalance between taxes and expenditures, resulting in the government deficits and inflation depicted in Table 19.7.

19.7.2.2 *Political business cycles.* Although Buchanan and Wagner's explanation for the growth in budget deficits in the United States is an attempt to explain a one-time secular shift in governmental policies, its reliance on the concept of fiscal illusion introduces a form of voter myopia and thus makes their explanation somewhat related to the traditional PBC model. This model in both its myopic voter and rational voter forms predicts deficit spending prior to elections and thus could account for secular swings in deficits, if governments fail to reverse these policies fully after the elections.

19.7.2.3 *Partisan effects.* Left-of-center governments run deficits; right-of-center governments run surpluses (smaller deficits).

19.7.2.4 *Government paralysis.* Much of the PBC literature implicitly and even often explicitly assumes a two-party electoral system. If the voter is unhappy with the levels of unemployment and inflation, she can vote for the opposition party. If she has a high income, she is likely to favor the party of the Right and not the Left. In such two-party systems the incumbent party can always be held responsible for the current macroeconomic situation.

Most European countries, however, have multiparty systems that often lead to *the government* being formed by a coalition of two or more parties. In such coalition governments disagreements over policy choices, as say the proper response to an economic shock like the OPEC price increases, may arise. Each party has its own constituents and no party wants to appear to give in to a compromise that makes its constituents worse off than those of other members of the coalition. A form of "war of attrition" ensues, with each party holding out in the hopes that the other members of the coalition give in first (Alesina and Drazen, 1991). The result is that the needed policies to deal with the economic shock are delayed and the economy suffers the consequence.

This type of argument can explain why some countries were able to adjust rather quickly to the OPEC price increases and reduce inflation levels back to normal,

while others adjusted more slowly. In the same way it could account for the growth in government deficits that began about the same time. Note that this hypothesis, unlike the previous two, also gives clear predictions about the causes for *different* sized deficits across countries.

19.7.2.5 *Budgetary rules.* The government paralysis described in the previous hypothesis arises because no party wants to take responsibility for the hard economic choices that sometimes must be made. In all parliamentary systems, however, there is a prime minister and a finance minister who at least nominally are responsible for the government's economic performance. They presumably have an incentive to see the government adopt responsible economic policies. Their ability to implement these polices will depend, however, on their authority over the individual ministers, the rules governing the amendment of budgets by the parliament, and so on (von Hagen, 1992).

19.7.3   *The evidence*

Buchanan and Wagner (1977) gave an explanation for the dramatic rise in the federal deficit that began in the United States during the 1960s. Although U.S. voters may have been fooled into voting for politicians who produced high deficits up through the 1980s, by the early 1990s the American voter seemed to have returned to the same sort of fiscal conservatism that Buchanan and Wagner saw disappearing during the 1960s.[24] An important clause in Newt Gingrich's "contract with America" that led to the Republicans' landslide victory in 1994 was the promise to eliminate the federal deficit. Bill Clinton also perceived there to be political gains from fiscal conservatism, and by the end of the 1990s the federal deficit was gone. American voters appear to have gotten over their illusions about the deficit.

Several of the studies cited in support of the PBC model have found government debt expanding prior to elections (Blais and Nadeau, 1992; Alesina and Roubini with Cohen, 1997, ch. 9; Franzese, 2000; Schuknecht, 2000). Partisan biases have been found in some studies (Blais and Nadeau, 1992), but not in others (de Haan and Sturm, 1994; Alesina and Roubini with Cohen, 1997, ch. 9), and at least one study has found some evidence of a reverse bias (Franzese, 2000).

Roubini and Sachs (1989) found that government deficits were larger in countries where government coalitions tended to be short and composed of many parties. Their findings have been supported in some additional studies (Grilli et al., 1991; Alesina and Perotti, 1995; Franzese, 2000),[25] but not in others (de Haan and Sturm, 1994; de Haan, Sturm, and Beekhuis, 1999).

Von Hagen's (1992) evidence on the importance of budgetary institutions in explaining deficits has been corroborated by several additional studies (e.g., de Haan and Sturm, 1994; Helland, 2000; Strauch, 2000).

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[24] See also Peltzman (1992).

[25] Edin and Ohlsson (1991) claim that it is minority governments rather than coalition governments per se that produce large deficits.

Thus, as too often happens when competing hypotheses are tested, the evidence is somewhat equivocal as to what *the* determinants of governmental deficits are. Clearly no single hypothesis can account for all the differences.

19.8   Reflections

The basic models discussed in this chapter often make different assumptions about how voters behave, how parties behave, and how the economy behaves. Not surprisingly, these models often generate quite different predictions. Understandably, there are substantial differences of opinion among the proponents of the different models as to how well the data support their predictions.

As mentioned earlier, one possible explanation for the difficulties researchers have had in finding *one* model that is consistent with all the data may be that more than one model is needed. Some of the authors of the original opportunistic PBC models seem to have had the Nixon administration's macroeconomic policies in mind when they wrote down their models, and certainly Richard Nixon was every bit the opportunist. But perhaps other presidents behave differently than Nixon. Perhaps Nixon today would behave differently.

Juan Peron once offered the following advice to the president of Chile:

> My dear friend: Give to the people, especially the workers, all that is possible. When it seems to you that already you are giving too much, give them more. You will see the results. Everyone will try to scare you with the specter of an economic collapse. But all of this is a lie. There is nothing more elastic than the economy which everyone fears so much because no one understands it.
>
> (as quoted in Hirschman, 1979, p. 65)

Peron tested the elasticity of the Argentine economy on several occasions, and many other Latin American leaders have followed his advice. Although giveaway programs financed by increasing public debt or printing money might have been successful ways to maintain popularity and win elections at one time in Latin America, today they do not appear to be so. Latin American voters seem to have become more sophisticated in their understanding of the macroeconomy; Latin American politicians have consequently become more responsible in their choices of policy.

It would also appear from evidence presented by Suzuki (1994) that Japanese voters have become less myopic over the post-war period. Suzuki finds support for the opportunistic PBC in data from the early years of the Liberal Democratic Party's rule, but that by the 1980s this support had disappeared. It is also interesting in this regard to note how virtually every European government was able to meet the strict requirements regarding inflation rates and government deficits that were set down for entry into the European Monetary Union. Despite starting from such widely different levels of inflation and budget deficit as presented in Table 19.7, all 12 countries desiring entry save Greece were able to meet the criteria by 1998, and even Greece met them by 2001. If the stakes are high enough, politicians can control inflation and the budget deficit.

All of the models reviewed in this chapter have one thing in common – they assume that the only government policies that voters are concerned about are related to the macroeconomy, and that elections are fought on the basis of policies that affect the macroeconomy.[26] This feature makes these models quite different from much of the rest of the public choice literature and in some ways in conflict with it.

For example, Alesina and Rosenthal (1995) assume that a moderate Democrat, when deciding whether to vote for his incumbent Democratic congresswoman in a midterm election, might vote against her, even though she has an excellent record in bringing pork-barrel projects to her district, because the voter wants to balance the liberal macroeconomic policies of the incumbent Democratic president with a Republican Congress. This assumption is at odds with a large segment of the public choice/political science literature that sees voters interested in only the pork-barrel/ombudsman activities of their representatives in Congress, and the representatives catering to these interests (Ferejohn, 1974; Fiorina, 1977b).

The assumed voter calculus also seems to put into question the voter rationality assumption. Even if the voter would like to see the Democratic president balanced by a Republican Congress, he is likely to calculate that the party affiliation of his congresswoman – since she is only one of 435 – will have a much smaller impact on future macroeconomic policies than it does on the flow of pork-barrel projects to the district. Thus even if the voter considers macroeconomic issues to be far more important than local ones, if he is truly rational he will probably vote to return the incumbent congresswoman to office and enjoy the pork that she will provide, rather than trying to alter national macroeconomic policies by defeating her.

Also conspicuous by their absence from PBC models are interest groups. Their inclusion might help explain some of the puzzling findings in the literature. For example, several of the studies cited above have observed increases in certain outlays and cuts in taxes just prior to elections. These policies are consistent with the predictions of some of the PBC models. However, the changes in taxes and expenditures tend to be small, and thus it is much more difficult to observe the predicted PBC in the unemployment and inflation data than in the expenditures and tax data. Perhaps the purpose of the expenditure/tax changes is *not* to affect macroeconomic variables, but to benefit certain interest groups that have promised to support the government with votes and/or money. Integrating interest groups into the models might greatly improve their explanatory power,[27] but, of course, at the cost of increasing their complexity.

One of the most attractive features of most of the models reviewed in this chapter is how much they are able to explain with such relatively simple structures and a relatively small number of variables. An important point to be made is to remind the reader that the models are often extreme simplifications of reality, and that they

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[26] Econometric studies that try to forecast election outcomes, like Fair (1982) and Hibbs (2000), do add in other variables to improve the accuracy of their predictions, but even here the work is notable for the sparsity of the additional variables included. Hibbs, for example, adds only one – troops killed in combat – beyond growth in income to predict the last half century's presidential elections.

[27] Frans van Winden (1983) has developed and simulated a model of private–public sector interaction allowing separate roles for labor, firms, the public bureaucracy, interest groups, and political parties.

often leave out much that is relevant. One important omission is certainly interest groups. In the next chapter we take up the activities of these groups. Here again we will find models that abstract from much that is relevant. Indeed, we will find models that assume that all government activity consists of selling legislation to interest groups and that all elections are determined by the wishes and actions of these organized interests. Macroeconomic policies that affect all citizens will vanish from view.

Bibliographical notes

This literature is huge and has led to the publication of at least one 800-page textbook. Drazen's *Political Economy in Macroeconomics* (2000) is an excellent introduction to and overview of the literature, although the book is somewhat mistitled, since it discusses virtually all topics from the public choice literature.

Several authors of the main PBC models have written their own partisan surveys of the literature (Schneider 1978, 1982; Schneider and Frey, 1988; Nordhaus, 1989; Hibbs, 1992; Alesina, 1988a; Alesina and Roubini with Cohen, 1997).

Additional surveys include Paldam (1981a, 1997), Alt and Chrystal (1983), Borooah and van der Ploeg (1984), Gärtner (1994, 2000), Keech (1993), and Nannestad and Paldam (1994).