

What is Political Economy?

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DAVID K. WHYNES

Basil Blackwell

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Modelling Politico-Economic Relationships

BRUNO S. FREY

There are innumerable relationships between the political and economic sectors of society. In order to advance our knowledge it is necessary to simplify these interactions by concentrating on particular aspects. The choice of the model, and therewith the abstractions, have to be guided by the goal of the research.

From many perspectives, government stands at the centre of interaction of economic and political forces. From observation it is immediately apparent that government actually has a great and sometimes dominating influence on the course of the economy, and that in turn government depends on economic factors. Thus, for many purposes it is fitting to model politico-economic relationships by considering government as an *endogenous* part of a social system composed of political and economic sectors. Such a view has dramatic consequences for economics, which so far has been accustomed to take government as an institution outside the system considered. Based on this exogenous view, government could be attributed the task of steering the economy to the 'common good'. The traditional theory of economic policy thus assumes that government maximizes a social welfare function within the opportunities provided by the economic system. This view is explicitly found in the quantitative theory of economic policy as championed by Tinbergen (1956) and Theil (1968), as well as in the more modern versions applied to dynamic problems, i.e. the normative theory of economic growth, in Shell (1967), and the theory of optimal control, in Chow (1973) and Pindyck (1973). Exactly the same approach is used in the recently developed theory of optimal taxation, in Diamond and Mirrlees (1971) and *Journal of Public Economics*

(1976) where the social efficiency losses due to the distortive effect of taxation are minimized. If, however, government is *not* taken to be independent of the economy, but rather as an endogenous part of the politico-economic system, such a welfare maximizing view is no longer logically possible. The change in perspective from an exogenous to an endogenous view thus requires a new theory of economic policy. It is easy to see that the change in perspective also has an impact on *positive* economics. For example, government being endogenous, it may play an active role in creating and amplifying business cycles. In the extreme, it may be considered as one of the major producers of instabilities in the economic system ('political business cycle').

The form of the relationship between the economy and government depends on the particular political and economic institutions existing. Government behaves differently according to the economic and political environment in which it is placed. As a consequence, there are many types of government behaviour observable. We will show below how various *types* of government behaviour are associated with particular politico-economic institutions.

Government behaviour which is at the centre of most politico-economic models can be analysed with the help of various methodologies. No effort is made here to survey these theoretical approaches. Rather, one particular approach, the economic theory of politics, is used here. This theory applies modern economic theory, and in particular the economic model of behaviour (see Becker, 1976), to political processes. In the USA, the approach is commonly known as Public Choice. (For surveys see, for example, Frey, 1978, Mueller, 1979, Whyne and Bowles, 1981, and Hamlin in this book.) The workings of this theory are exemplified below for the case of governments acting within the institutional conditions of representative governments in highly industrialized countries. It is shown how the theoretical models can be empirically tested with the help of econometric methods, leading to '*politometrics*'. The quantitative analysis of the economic model of government is contrasted to a competing approach by ex-post forecasts extending beyond the estimation period. The consequences of politico-economic modelling for positive analysis and policy-making are pointed out, and the last section of the chapter offers some concluding remarks.

TYPES OF GOVERNMENT BEHAVIOUR

A basic assumption in the economic theory of politics is that the politicians forming the government pursue their own goals. They gain utility from putting their ideological conceptions into reality, but they are also strongly interested in staying in power. Survival is a necessary requirement for being able to influence the course of events effectively. It is therefore reasonable to assume that politicians and government are ready (temporarily) to give up their ideologically motivated pursuits when it turns out to be necessary to guarantee survival in office. A very general model of government is thus based on the maximization of utility (composed of the particular ideology of the government), subject to a survival constraint. This general model yields widely different kinds of behaviour according to the politico-economic system considered. This means that the impulses of economic conditions on the political sector, and of the political decisions of the economy, may assume a great variety of forms. Six different forms of institutional conditions and corresponding types of government behaviour are distinguished here, extending from extremely democratic to authoritarian conditions.

Direct democracy

In this institutional set-up, the citizens take the political decisions in an assembly. A government barely exists, its only function is to do exactly what the citizens decide; the politicians have no discretionary power. If there is only one issue – usually the amount of public service as measured by expenditure – on which to take a decision, if individual preferences are single peaked (i.e. for each individual there exists a preferred amount of public services, and the level of satisfaction is decreasing with increasing distance in both directions from this position) and if everybody has perfect information and participates in the vote, the decision-making based on simple majority voting produces the outcome which is preferred by the *median voter*. The median voter model has been applied particularly to democratic decisions concerning public school expenditures in US communes (e.g. Borchering and Deacon, 1972; Bergstrom and Goodman, 1973; Lovell, 1978) and to all kinds of public expenditures in Swiss communes (Pommerehne, 1978; Pommerehne and Schneider, 1978), and the corresponding income and tax price elasticities have been empirically determined.

The median voter model of direct democracy constitutes a clear advance over the earlier estimates (see, for example, Fabricant, 1952, and Sharkansky, 1967) which simply assumed that the demand for publicly provided goods followed the same rules as the supply of goods provided by the market. In addition to explicitly acknowledging the *political* framework of public provision, the median voter model also takes into account that the informed voters know that they have to 'pay' for the goods via an increase in taxes ('tax price').

The assumptions on which the median voter model is based exist only under quite restricted conditions. As soon as there are multi-dimensional issues, the necessary conditions for the existence and stability of an equilibrium whose properties are used for the econometric tests are unlikely to be met even with any reasonable approximation in reality (see, for example, Hinich, 1977). A careful critical examination of the data, methods and application of the median voter model even under favourable institutional conditions (Romer and Rosenthal, 1979) concludes that there is in general rather limited support of this approach.

Semi-direct democracy

In this institutional set-up, there exists both a government and parliament, but the voters have the possibility to influence the political outcome by advancing initiatives and by voting in referenda. A classical case of semi-direct polity is Switzerland. A politico-economic model working on the assumption that the government maximizes its utility subject to the survival constraints has been constructed for that country (Schneider, Pommerehne and Frey, 1981). The Swiss government being composed of all the large parties represented in government, its utility is taken to be best served by minimizing conflict, i.e. by granting as many demands as possible coming from the strong interest groups and from public bureaucracy, while the consumer-tax payers have to pay the bill. This usually means that public expenditures are augmented. This policy is, however, subject to the survival constraint, which in this case means that a sufficient share of referenda is decided in the way proposed by the government. When the economic conditions are good and in particular when the rate of inflation is low, citizens will be more inclined to decide in favour of the government's wishes in a referenda irrespective of its specific content. When economic conditions are bad, the voters tend to blame government and are more ready to reject the propositions advanced by the government.

If the citizens reject too many propositions, the government has to make an effort to win the support of the citizens again, which is done by reorienting the policies undertaken in the direction of their (presumed) wishes. In general, this means that public expenditures have to be decreased (compared to the trend), helping to reduce inflation, which in turn makes it *ceteris paribus* more likely that the referenda are decided according to the government's wishes.

This interdependent politico-economic model has been empirically tested for Switzerland and the period 1950–75, with satisfactory results. It turns out, as theoretically expected, that *ceteris paribus* the government significantly reduces public expenditure when the support by the electorate is low, while it is increased when the government enjoys a high support by its citizens, measured by a high share of referenda being decided as proposed.

Democracy by party competition

According to Schumpeter (1942) and subsequently Downs (1957) the essence of representative democracy is that parties strive for the vote of the citizens. If there are only two parties, each of which attempts to maximize the share of votes received, and the voters' preferences are distributed along a spatial scale representing a particular political issue, under somewhat restrictive assumptions the following result obtains: both parties offer the same programme and chance decides which one will form the government; both party programmes focus on the median voter's preference, and the outcome is Pareto-optimal. This model provides an intuitive rationale for the observation that in representative democracies the programme of the government and the opposition are often quite similar.

The model of party competition can, however, be criticized on various grounds:

- (1) There are very few countries and periods in which only two parties compete against each other. For that reason, the model of party competition has rarely, if ever, been empirically tested (at least in a satisfactory way). As soon as there are more than two parties, or if there is the *threat* of a third party entering, the median voter result breaks down. The extension of the model to more than two parties has been confronted with grave difficulties because the possibilities of coalition formation must be considered, and so far no satisfactory results have been achieved.

- (2) Parties can only be expected to maximize votes if political competition is very intensive (perfect): in that case the political survival constraint dominates government behaviour completely, and the government has no leeway for discretionary actions to further its own utility.

While the competition between parties is certainly an important and even essential ingredient of representative democracy, it is unrealistic to base the politico-economic relationships exclusively on this concept.

Representative democracy

In a representative democracy with discontinuous elections every third to fifth year, the government can be considered to be in a special position of power similar to that of a monopolist. It has various advantages in comparison to the opposition, the most important of which is the opportunity to influence the course of the economy before elections. The government has considerable discretionary power which it can use to carry out its ideological programmes. In the limiting case in which political survival is seriously threatened, government is forced to undertake a vote maximizing policy at election time, i.e. the model of monopolistic government includes as a *special* case the model of party competition, and that only an election time. The normal case is, however, that the government is free to pursue its ideologically motivated goals, but that the need to be re-elected constitutes an important constraint.

The behaviour of such a government in a representative democracy has been modelled both in the context of a Phillips-curve framework and of the whole economy. The best known model is by Nordhaus (1975) (see also MacRae, 1977; Lindbeck, 1976), who assumes that the government maximizes its vote share V at election time T . This vote share depends on the past experience of the voters with unemployment U and inflation p . The voters are thus taken to make the government responsible for the course of the economy. Past economic experiences have less influence on the vote decision; the discount factor ρ thus measures the speed with which voters forget. The government's vote share at election time accumulated over the election period $(0, T)$ is

$$(1) \quad V(T) = \int_0^T u[U(t), \dot{p}(t)] e^{\rho t} dt,$$

where u measures the instant evaluation of the government's policy, an increase of unemployment and inflation damaging, of course, the government ($u_U < 0$, $u_p < 0$)

The government has control over the rate of unemployment, but is constrained by the (expectations) augmented by unemployment-inflation trade-off.

$$(2) \quad \dot{p} = f(U) + a\dot{p}^e; f'(U) < 0, 0 < a < 1$$

$$(3) \quad \frac{d\dot{p}^e}{dt} = b(\dot{p} - \dot{p}^e); b > 0.$$

Maximizing the vote share at election time (1), subject to the constraint of the economic system (2), (3), leads to the government's optimal policy: the unemployment rate is increased immediately after the election in order to push down both inflation and inflation expectations, thus shifting the Phillips-curve towards the origin. Before the election unemployment is reduced, and the cost in terms of an outward shifting Phillips-curve arises only after the election. The government thus is able to increase its vote share by deliberately destabilizing the economy, a phenomenon known as 'political business cycle'.

The fact that the government may find it advantageous actively to produce a business cycle stands in stark contrast to the 'Keynesian' notion of a benevolent government which as a matter of course has an interest in economic stabilization.

Since Nordhaus's pathbreaking study, a large theoretical and empirical literature on the political business cycle has emerged. For example, Kirchgaessner (1979) has derived the specific features of politico-economic cycles when governments pursue ideological goals subject to an election constraint, and when voters are not myopic and learn to understand the creation of the cycle. Paldam (1981) has made extensive empirical tests and has found strong evidence of a political business cycle in aggregate real and price variables. For OECD countries and the period 1948-75 the growth of real national income is largest in the second year after the elections, this being the first opportunity where the newly (re)elected government can redeem its election promises. With few exceptions such promises require increases in public expenditures, leading to an upswing. This explanation of the political business cycle adds a new aspect to the discussion.

On the basis of a complete macroeconometric model of the USA,

Fair (1975) has derived the vote-maximizing policy of a president. According to his estimates, the presidential vote share depends on the growth rate of real GNP only (a result which has not been found by other researchers). Moreover, voters only consider GNP in the election year, i.e. they completely discount the state of the economy in previous years. Under these conditions, it turns out that it is advantageous for the president to create a marked politico-economic cycle: the president maximizes votes and his re-election chance if he undertakes a strongly restrictive policy in the first part of the election period, and a strongly expansionary policy in the second part. It turns out, however, that US presidents in the post-war periods have not followed such a policy, i.e. the vote-maximizing use of instruments has weak explanatory power.

A different course is followed by monopolistic models constructed to *explain* the actual behaviour of governments in representative democracies of industrialized countries. As they can be considered the prototype of econometrically estimated politico-economic models, they will be discussed more extensively below.

Pressure group democracy

There are institutional conditions giving great power to organized interests, at least in some areas. The dependence of governments on pressure groups has not been at the forefront of politico-economic modelling, probably because the public choice scholars engaged in the area tend to apply the concepts they are familiar with from economics, and they therefore stress aspects of competition rather than of 'power'. (Traditional political scientists are exposed to quite a different tradition, pressure groups playing a central role in the writings of Bentley (1908) and Truman (1958).) Nevertheless, there are politico-economic models stressing the activity of organized interests (van Winden 1981, Borooah and van der Ploeg, 1983) and there are at least three areas in which the influence of pressure groups on the government has been specifically studied by politico-metric research:

- (1) It has been shown that the position interest groups take on specific economic policy issues has a significant effect on referenda outcomes in Switzerland, *ceteris paribus* (Schneider and Naumann, 1982). Not surprisingly, those interest groups with large numbers of members (trade union confederation, farmers' union) have more impact at *this* level of the polity than those with only few members (which find it advantageous to exert pressure at

different levels of the political process, mainly through the public bureaucracy).

- (2) Trade union behaviour is not independent of purely political factors as has been demonstrated by Gaertner (1981) for the case of the Federal Republic of Germany and the period 1960–76. The rate of increase of wage rates moves cyclically with elections: the trade unions *ceteris paribus* ask for smaller wage increases if the party in power (social democrats) is ideologically close to them. This behaviour can be explained by an effort to contribute to keeping a government in power which is basically favourable to the trade union interest. On the other hand, if the government is politically right-wing, the trade unions see no reason to restrict their wage demands; they may even be particularly aggressive in order to reduce the government's re-election chance.
- (3) An area in which organized interest groups are particularly active and successful is tariffs. Within the framework of a newly developing international political economy based on public choice (for a survey see Frey, 1984), tariff setting has been analysed as the result of a 'game' between protectionist and free trade interests (Findlay and Wellisz, 1982; 1983). Politometric research has been able to show that the activity of interest groups strongly contributes to explaining the temporal development as well as the structure between industries of existing tariffs, particularly for the USA (see, for example, Caves, 1976; Baldwin, 1976; Magee 1982).

This discussion shows that there are fruitful (preliminary) efforts to integrate the behaviour of pressure groups into empirically estimated politico-economic models.

Authoritarian polities

The *general* relationship found between economic conditions and government for the various forms of democracy also obtains for polities with an authoritarian structure: no government, not even the most dictatorial, is completely independent of the support by the population. *Every* government has therefore an interest to meet the population's economic desires *up to a certain point*. In a dictatorship, the government has more possibilities to suppress the population's wishes, but it must nevertheless consider the fact that it may be overthrown if the population is all too dissatisfied with the reigning economic conditions. In that case it must step up repressive

measures in order to keep down the likelihood of a revolt. Such a policy requires resources in terms of manpower (police, soldiers, informers) and finance, which cannot be used for other purposes. Even an authoritarian government is therefore forced to decide whether it is not more advantageous in terms of its own goals (utility maximization) to reduce the danger of being overthrown by improving the economic conditions, rather than to use additional resources to increase suppression.

A politico-economic model along these lines has been developed for the socialist countries of Eastern Europe for the period 1961-76 (Lafay, 1979). In these countries, the government's popularity with the population cannot be measured by election outcomes as the voters effectively have no choice between competing programmes and policies, nor are there any public opinion surveys available. An indirect indicator of the government's popularity is the frequency with which the politicians in power change. A frequent change of the members of the government is a sign of trouble and may therefore be taken to indicate that there are increased tensions between the government and the population. It is indeed found that a decrease in the growth rate of real wages is followed by more rapid changes among the members of the government. The governments of the planned East European countries tend to react to such mounting dissatisfaction in the population by easing their investment programmes. The capital investment plans are revised downwards in order to make it possible to grant the population a more rapid rise in real wages. When these measures are successful the population is (relatively) more supportive of the government. Once the situation of the government is stabilized, the orthodox plans are again re-established by curtailing the growth of real incomes in order to raise investment. The interaction between the government and the population thus leads to a politico-economic cycle which is comparable to the political business cycle found in Western industrialized democracies.

POLITOMETRICS OF REPRESENTATIVE INDUSTRIALIZED DEMOCRACIES

As has been pointed out in the last section, the most advanced theoretical and empirical work on politico-economic models has been done for representative democracies of economically advanced Western countries. This section presents some quantitative estimates of the interaction between the economy and the polity, using the

example of the UK. The purpose is to show how the ideas outlined above can be subjected to politometric testing, and that the resulting empirical politico-economic models yield forecasts which are superior to those of alternative models of government.

The politico-economic model simplifies real life by considering just two decision-makers (voters and government), two areas (the economy and the polity) and two links of interdependence (the evaluation function and the policy function). Figure 6.1 portrays the model diagrammatically. The two functional links will now be discussed in turn.

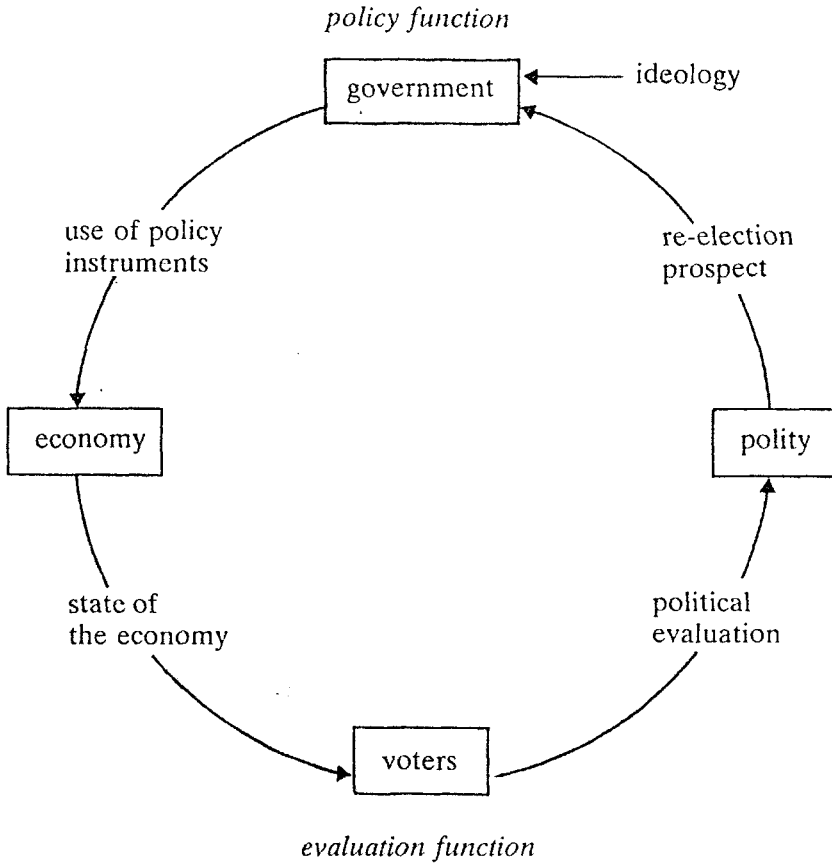


Figure 6.1 Basic outline of a politico-economic model

Voters: popularity function

It is assumed that voters tend to turn against the government when they realize that economic conditions worsen, that is when the rates of unemployment and inflation increase, and when the rate of growth of real disposable income falls. The government's position *vis-à-vis* the voters is measured by government popularity, which is the only (reasonably) reliable indicator of its standing with the voters available to the government between elections on a monthly basis. Besides economic conditions, there are political influences: government popularity wears off during the time in office ('depreciation') and it moreover follows an autonomous 'pure election cycle' (which is unexplained from an economist's view). It has been observed that the voters tend, after some time, to turn away from the government until the middle of the election period; but when the election approaches, they gradually return to support the government.

For the UK, where in the period dealt with there were only two parties effectively contending for office, the Conservative and the Labour parties, the difference between the popularity of the government and the main opposition party (the so-called 'lead') is explained. The lead function is estimated with quarterly data for the period 1958.1 to 1976.3 (see Frey and Schneider, 1978; 1981a):

$$\begin{aligned}
 LEAD(t) = & 11.6 + \\
 & +0.59 LEAD(t-1) \\
 & (7.09) \\
 & -0.51 \text{ change in the rate of inflation } (t) \\
 & (-1.90) \\
 & -1.21^* \text{ rate of unemployment } (t) \\
 & (-2.56) \\
 & +0.22^* \text{ rate of growth of real disposable income } (t) \\
 & (2.13) \\
 & -0.36^* \text{ popularity depreciation } (t) \\
 & (-3.01) \\
 & -0.70^* \text{ pure election cycle } (t) \\
 & (-2.34)
 \end{aligned}
 \left. \begin{array}{l} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \end{array} \right\} \begin{array}{l} \\ \\ \text{economic} \\ \text{influences} \\ \\ \\ \\ \text{political influences} \end{array}$$

$$\bar{R}^2 = 0.70, h = 1.38, d.f. = 69.$$

(Figures in parentheses are *t*-values; *denotes *t*-values significantly different from zero at the 5 per cent level.)

All the parameters have the theoretically expected signs. In particular, government lead decreases with a rise in the rate of unemployment and increases with a rise in the growth rate of real disposable income (the change in the rate of inflation just misses being statistically significant). 'Popularity depreciation' is captured by a set of (dummy) variables which continually increase over the election period; the corresponding parameter is therefore negative. The 'pure election cycle' is captured by a set of (dummy) variables which continually increase until the middle of the election period, and then continually decrease until the next election; the corresponding parameter is therefore negative. The equation 'explains' (in the statistical sense) 70 per cent of the variance, and the h-test suggests that there is no autocorrelation of residuals. The equation thus performs well, judged according to the conventional statistical tests.

Government: policy function

The politicians in power are assumed to pursue their (ideological) selfish goals; for example, a Conservative government prefers lower public expenditures than a Labour government, measured as a share in GNP. The government's actions are restricted by political and economic constraints. As the government politicians are unable to pursue their ideological goals when they are not in power, they will make a great effort to be re-elected. They endeavour to practice an economic policy which will ensure that they receive a sufficient share of the votes. For the period investigated (1958-76) simulations with the lead function indicate that - provided inflation does not increase very quickly - an expansionary economic policy will most probably increase the government's lead. Therefore, if government fears that its lead is not sufficient for remaining in office and the next election is close, it finds it advantageous to practice an expansionary policy. If, however, the government is confident of winning the forthcoming election, it is free to practice an ideologically oriented policy. In both cases, the policies cannot be instantaneously changed, as an adjustment period is needed. Moreover, the government must consider economic constraints in the form of the balance of current account and of cost factors (real wage level).

The policy function estimated over the same period as the lead function (1958.1 to 1976.3) is shown here for the most important government policy instrument, real (exhaustive) government expenditures:

$EXPENDITURES (t) = 0.16$ $+0.02^* \text{ Lead-deficit } (t-1)$ (2.70) $+0.83^* \text{ adjustment to value desired}$ (28.07) <i>for re-election</i> $(t-1)$	}	<i>in case of re-election effort</i>
$+0.01^* \text{ Conservative ideology } (t-1)$ (2.11) $+0.03^* \text{ Labour ideology } (t-1)$ (3.66) $+0.53^* \text{ adjustment to value desired}$ (25.60) <i>for ideological reasons</i> $(t-1)$	}	<i>in case of ideologically oriented policy</i>
$+0.02^* \text{ balance of current account}$ (3.6) $+0.02^* \text{ real wage rate } (t-1)$ (5.90)	}	<i>economic and financial constraints</i>

$$\bar{R}^2 = 0.99, h = 1.19, d.f. = 68.$$

The equation's test statistics meet the conventional requirements, and the estimated coefficients have the theoretically expected signs. Given a lead deficit, the government increases its expenditures in order to lower unemployment and to increase growth, in order to improve the likelihood of re-election, but time is needed to adjust. On the other hand, when there is a lead surplus, a Conservative government aims at a lower public expenditure share in GNP than a Labour government, again after a time of adjustment. Similar equations have been estimated for subsidies to households.

The popularity (lead) and its policy function describe in simple terms the interaction between the polity and the economy, and between the two sets of decision-makers, government and voters, for the particular case of the UK and the period from the end of the 1950s to the mid-1970s. Despite the considerable abstractions and simplifications of reality, this model is able to predict quite well the future course of government expenditures. In order to demonstrate this, true ex-post forecasts have been made which extend beyond the estimation period (1958.1–1976.3). Using the observed values for the economic variables contained in the lead function, government expenditures are predicted for the period 1976.4–1979.3.

In order to assess whether the politico-economic model developed

brings useful insights, its estimation and forecasting performance is compared to a *competing model* which has been constructed to explain government policy in the UK. The crucial test is therefore not whether the politico-economic model is in an absolute sense 'good' (this would be a mistaken endeavour) but rather whether it is able to perform *better* than another non-trivial explanation of the same phenomenon.

The competing model used here has been developed by two British scholars, one an economist, the other a political scientist (Chrystal and Alt, 1981). The two authors specify a *policy function* which differs fundamentally from the politico-economic model discussed above. They assume that economic variables directly influence government policy and that there is no need to model the political sector. The two economic factors assumed to influence the use of the policy instruments are the level of national income (in real terms) and the lagged level of government expenditures.

Estimated over the same period (1958.1 to 1976.3) as the politico-economic model, the policy function is:

$$\begin{aligned} EXPENDITURES(t) = & -2.623 \\ & +0.0806 * \text{real GNP}(t) \\ & \quad (3.06) \\ & +0.759 * \text{Expenditures}(t-1) \\ & \quad (14.01) \end{aligned}$$

$$R^2 = 0.99, h = 1.50, d.f. = 76.$$

Judging from the test statistics, the Chrystal-Alt version of the policy function looks satisfactory. Real GNP and lagged expenditures have a statistically significant effect on real (exhaustive) government expenditures. This means that the quality of the econometric estimation does not allow any discernment between the 'politico-economic' model as presented above, and the 'economic' model as developed by Chrystal and Alt.

The situation is different when the true ex-post forecasts are compared. In order to allow the comparison of the predicting power of the two models, the two equations of the 'politico-economic' model and that of the 'economic' model were estimated with data extending only up to 1976.3. Table 6.1 shows the forecasts for the subsequent period 1976.4 to 1979.3 whose data have *not* been used for the estimation.

Table 6.1 *Comparison of forecasts between a 'politico-economic' and an 'economic' model for exhaustive government expenditures and subsidies in the UK.*

Estimation period: 1958.1–1976.3

Forecasting period: 1976.4–1979.3

		<i>Measures of deviation between actual and predicted values</i>		
		<i>Theil's inequality coefficient</i>	<i>Average absolute percentage deviation (per quarter)</i>	<i>Result</i>
Exhaustive government expenditures	1 Politico- economic model	0.38	1.10	Politico- economic model superior
	2 Economic model	0.78	2.68	
Subsidies	1 Politico- economic model	0.33	1.24	Politico- economic model superior
	2 Economic model	0.87	2.15	

Politico-economic model: Frey and Schneider (1981)

Economic model: Chrystal and Alt (1981)

Two measures of forecasting performance are given:

- (1) Theil's inequality coefficient T

$$T = \frac{\sqrt{\frac{1}{n} \sum (PV - AV)^2}}{\sqrt{\frac{1}{n} \sum PV^2 + \frac{1}{n} \sum AV^2}}$$

where n = number of forecasted periods

PV = predicted values

AV = actual values

T is one of the most often used measures for judging the quality of forecasts. If it takes the value 0, one has a 'perfect' (without

error) forecast, and if it takes the value 1, one has a 'bad' prediction, such as a naive trend extrapolation.

- (2) Average absolute percentage deviation between the actual and predicted values. The closer this value is to 0, the better is the forecast.

As may be seen from table 6.1, the politico-economic model yields superior forecasts for both exhaustive government expenditures and subsidies: Theil's inequality coefficient and the average mean error of deviation between predicted and actual values are considerably smaller in the case of the politico-economic model.

Comparing the forecasting capacities of the model for the United Kingdom as well as for other countries (see Frey and Schneider, 1982) the analysis reaches the result that the politico-economic model more adequately predicts the actual values of the variables than competing models. The analysis suggests that:

- (1) *Macroeconomic variables* such as (the growth of) GNP, unemployment and inflation are not well suited to serve as *direct* determinants of government behaviour.
- (2) Government behaviour (also) depends on *politics*. The basic proposition of the politico-economic model that governments are interested in putting their selfish goals into practice in the political contest, i.e. to be re-elected, fares well compared to the competing proposition that governments are interested in the state of the economy (presumably to further the welfare of the population). The analysis may thus be interpreted as a test of the 'economic model of behaviour' – that actors are primarily pursuing their *own* goals, especially survival – applied to politics compared to the model of a 'benevolent dictator' (see Buchanan, 1977) – that actors pursue the 'good' of society. It should, however, be noted that these behavioural propositions are only indirectly tested, by interpreting revealed behaviour.
- (3) Government behaviour is not solely determined by the need to survive, but also by *ideological considerations*. The differentiation between the state of a popularity deficit before an election in which the government is forced to employ a popularity-increasing policy in order to be re-elected, and the state of a popularity surplus in which the government can allow itself to pursue ideologically motivated objectives, seems preferable to the crude (but still popular) assumption that the government constantly employs a vote-maximizing policy.

- (4) *Economic variables* do influence government behaviour, but they do so indirectly by determining (part of) the *constraints* within which the government can act. These constraints differ between countries and periods; for example, the balance of payments constraint proves not to be relevant for the USA, but was so for the UK, 1958–79.
- (5) Governments are part of politico-economic interaction in which a *multitude of actors* participates. In the policy functions of the politico-economic models estimated, the influence of public administration on government can be identified to lie in the incapacity of governments to change their policy instruments promptly to the value desired. The public administration has an interest in a conservative policy which enhances their position.

To summarize: neither the 'pure' economists' assumption that economic variables alone explain government behaviour, nor the assumption that governments maximize votes only, seem to be adequate. A satisfactory model of government behaviour and politico-economic interdependence requires that a more complex model be considered.

The models developed and the results sketched constitute only the beginnings of empirical research in political economy, and especially in the study of the interaction between the economy and the polity in a representative democracy. In order to evaluate the present state and future prospects of this type of research, we shall now discuss its shortcomings and achievements.

Shortcomings

- (1) The politico-economic models so far developed do not adequately deal with some of the important decision-makers. It is in particular necessary to integrate the public bureaucracy, interest groups (business, trade unions) and parliament (the relationship between president and Congress in the USA for example) more fully.

There is at present research underway in this direction. It has been shown that the model used for the government (utility maximization subject to constraints) is also appropriate for explaining central bank behaviour, and therewith monetary policy, with the decisive constraint on the central bank being the possibility of conflicts with the government. It has been hypothesized that in the case of conflict, the government is for various reasons in a

more powerful position, and the central bank has to yield to its politically motivated demands. The following propositions have been tested in this respect for West Germany, with good results; see Frey and Schneider (1981b). In the case of conflict with the government, the central bank follows government policy (with a time lag) – specifically, it employs an expansionary monetary policy in accordance with the government's expansionary fiscal policy. In the case of no conflict with the government, the central bank pursues its own utility by employing a restrictive policy, i.e. by increasing interest rates and decreasing credits in order to combat inflation.

- (2) The politico-economic models do not allow for the influence of political relations between nations. This aspect is of obvious importance, especially in the age of movements towards economic and political integration such as the European community. Equally, the interaction of federal units is left out of consideration. Sub-federal units not only spend a large part of total public expenditures in many countries; they also influence the central government's policy.
- (3) In the present models, government activity is reflected only through the budget. There are, however, a great many other policy areas open to the government which it can use substitutively. If the substitution possibilities are heavily employed, the policy function as sketched above may be misspecified.
- (4) Informal aspects should receive more attention both with respect to voters and political actors. If, for instance, voters become increasingly aware of the fact that governments voluntarily create business cycles in order to stay in power, they may start reacting adversely to such activity. In that case, it may no longer be worthwhile for governments to create such cycles. The close relationship to the theory of rational expectation should be obvious.

Achievements

The politometric approach to studying the behaviour of government in the framework of the macro-interrelationship between the economy and polity compares favourable with the early public choice models, which had little or no empirical content. The emphasis on the dominant role of government (subject to constraints) seems to be more useful than that of models of party competition, which have become increasingly sterile and which, for good reasons, are rarely

tested empirically. The politometric approach is also an advance over the systems approaches currently used in political science (going back to Easton, 1965), which are quite elaborate but which cannot be quantified with empirical data. Politico-economic models also seem to be more able to trace past government activity than pure economic models.

CONSEQUENCES

The construction of politico-economic models in which the government is an endogenous part of the system has far-reaching consequences for economics as a science. Some of the consequences are rather obvious and therefore need not be elaborated here. Thus, for *positive economics* it is clear that business cycle theory, for example, should take into account that the government does not necessarily aim at stabilizing the economy which was assumed as a matter of course by Keynes and the Keynesians (see Buchanan and Wagner, 1977), but that it may have an interest in actively producing cycles for re-election purposes. As has already been hinted at, the consequences of politico-economic models are even more far-reaching, if not revolutionary, for the *theory of economic policy*.

As the behaviour of decision-makers is here seen as being determined by the system as a whole, it is not easily influenced by actors exogenous to the interaction system, i.e. by the economist as policy adviser. (For the following, see Frey, 1983.) There are merely limited possibilities to influence the government or other decision-makers in the *current politico-economic process*. The only possibility is to inform them of the best way to reach their own goals. In the case of the government, the policy adviser will only be listened to, and his suggestions followed, if he shows the politicians in power how they can most effectively put their ideological views into practice, and, perhaps even more important, how to steer the economy to guarantee re-election. Advice based on the 'common good' (as perceived by the adviser) has little or no chance of being heard and applied in the current politico-economic process. A more effective way to influence the outcome of the performance of the politico-economic system is to *change the rules of the game*. These rules are determined by the nature of the particular institutions existent in the system, such as, for instance, the way the government is chosen. The political economy approach is thus process-oriented. If the politico-economic process works well, i.e. if it is democratic

and takes individual preferences into account, the outcome is considered to be good. It should be noted that this view is analogous to the economist's view of the workings of the ideal market: the *process* of perfect competition leads to Pareto-optimality. Optimality of outcome is here a by-product of the individual actors' behaviour, i.e. it results although the common good was not the specific aim.

The benevolent dictator or social welfare function approach still dominates in modern economics despite the fact that Wicksell had already strongly rejected it in 1896. Since then even more arguments have been raised against it. To name just the most basic ones: it has been proved that no consistent social welfare function can be constructed on the basis of individual preferences; the social welfare function cannot be made operational, i.e. it is not amenable to empirical testing; the policies derived by maximizing the social welfare function are not accepted by practical policy-makers as it is not in their interest to behave this way; the approach is methodologically unacceptable because it transfers the concept of individual utility maximization to society as a whole.

Concluding remarks

There are a great many types of politico-economic models with which to capture the interdependence between the economy and the polity. A politico-economic model can only successfully mirror reality if the underlying institutional conditions are carefully considered. Accordingly, models purporting to capture the politico-economic relationships in a direct democracy, in a democracy with referenda, in a system of party competition, in a representative democracy, in a pressure group democracy and in an authoritarian system will differ greatly from each other. Some such models have been discussed and it has been shown for the particular case of the UK as a classical representative democracy of an industrial country that the politico-economic interactions are indeed significant, and that a corresponding politico-economic model performs better than a model taking only economic factors into account. It has been pointed out repeatedly that the research is only beginning, but that there are at present fascinating research efforts being made to extend and to improve the models. Even at the present stage, politometrically estimated politico-economic models have contributed profitably to extend our knowledge.