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Politico-Economic Models and Cycles*

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POLITICO–ECONOMIC MODELS AND CYCLES

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Studies are surveyed analyzing the mutual interaction of economy and polity in an empirically testable way. A wide variety of assumptions are made concerning the behaviour of economic and political decision-makers – in particular voters and government, as well as the economic and political sectors. Representative models are discussed considering steady state equilibria and political business cycles, and empirical results are presented for the U.S., the U.K. and Germany. Finally, the potential and prospects of politico–economic modelling are discussed.

1. Introduction

Politico–economic models study the *mutual interaction* of the economic and the political sectors of society concentrating on the relationship between consumer–voters and government. The influences of the economy on the polity, and of the polity on the economy are treated in an *explicit* and for the most part formal fashion, making it possible to test the theories *empirically*.

This paper does not deal with models which are not intended for empirical testing [such as Rothenberg (1965), Morris and Giral (1969)]. Neither are median-voter models discussed because they assume that the revealed preferences of the electorate are automatically implemented by an anonymous, noninstitutional political sector [see Pommerehne (1978)].

The basic idea of a politico–economic model is that the voters' evaluation of government performance, and therefore a government's chance of staying in power, depends substantially on economic conditions; and that the government in turn seeks to manipulate the economy in order to stay in power and to maximize its utility (e.g. by putting ideological programs into action).

This general relationship between the two actors and the two sectors may be represented as in fig. 1. The evaluation function captures the influence of the economy on the polity through the voters, and the policy function captures the influence of the polity on the economy through government.

This paper discusses the main assumptions concerning the *building blocks* used in politico–economic models, namely the actors and the type of economic and political system considered (section 2). On this basis some *representative models* using them are sketched and some empirical results are presented (section 3).

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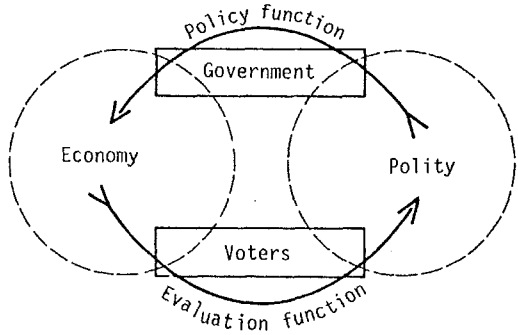

Fig. 1

Section 4 outlines (yet) nonformalized models extending the analysis in more general directions. The concluding section offers some comments on the potential of, and prospects for, this line of research.

2. The main building blocks

Politico–economic models are composed of various building blocks about which different assumptions can be made. Of prime importance are the particular utility function, time perspective, and information processes by both government and voters, as well as the characteristics of the *economic* and *political* sectors.

2.1. Voters

Voters are assumed to be rational: They evaluate the government's past and expected future performance on the basis of the state of the economy, supporting another party (the opposition) if they are dissatisfied. The effect upon the polity is measured by the government's (or parties') current *popularity* index (as regularly collected e.g. by Gallup or National Opinion Poll) or *election* results. Due to the public good effects involved, individual voters have little incentive to become fully informed and may, therefore, behave like 'satisficers' [see Kramer (1971)].

The various approaches proposed differ strongly with respect to the arguments included in the *consumer–voters' utility function.* Due to differences in the political indicators (popularity index or election results), and other data, in the period and area covered in the specification of the functions and statistical procedures, there is mixed empirical evidence about which (if any) economic variables exert a statistically significant political influence. It may be argued that with rational voters *no* macroeconomic variable has any effect [see Stigler (1973) and Arcelus and Meltzer (1975) for U.S. Congressional elections]. These studies have, however, been severely criticized on theoretical and empirical grounds [Okun (1973), Goodman and Kramer (1975)].

Various authors find that general economic conditions are reflected by one variable only – the growth of disposable income [Tufte (1975), Fair (1975)], or the

rate of unemployment [Mueller (1970), see the critique by Hibbs (1974)]. The most common result is to have two arguments in the voters' utility function, usually the rate of unemployment and of inflation [the earliest study being by Goodhart and Bhansali (1970)]. For American presidential elections it has been found that a Democratic presidential candidate's vote share is positively influenced by an increase in the rates of unemployment and inflation (and negatively by a rise in transfers). The reverse is found to hold for a Republican presidential candidate [Meltzer and Vellrath (1975)]. The explanations offered for these results are, however, rather ad hoc.

If the popularity and election functions are carefully specified, particularly taking into account shifts due to noneconomic effects, there is evidence that in countries dominated by two major parties all three macroeconomic variables (rate of unemployment, inflation, and growth of disposable income) are statistically significant [for the United States see Goodman and Kramer (1975), Frey and Schneider (1976a); for other countries see Frey and Schneider (1975, 1976b)]. Other indicators for the state of the economy may also be of importance, such as real share prices which reflect changes in wealth as well as expectations about the future course of the economy [Niskanan (1975)].

From the point of view of public economics it is particularly interesting to know whether government's fiscal activity *directly* affects its popularity and election success (rather than indirectly through its effect on the macroeconomic variables discussed above). An increase in public transfers (to private households) has a positive effect on the government's political position [Tufte (1974)]. This is implicitly accounted for in all studies taking (the growth of) *disposable* income as a determinant. It is also suggested that the growth rate of real per capita federal spending over the election period has a highly significant *negative* effect on the vote share of the presidential candidate of the incumbent party in the United States, 1896–1972. What is less surprising is the fact that the growth rate of real per capita federal tax revenue also has a highly significant negative effect [Niskanen (1975)]. More sophisticated assumptions about the particular way economic conditions affect voters have also been made. Instead of the level, the *change* in economic variables, particularly the rate of unemployment [Lepper (1974)] is introduced. It has been argued and empirically tested that economic variables exert a significant effect only if their level crosses a certain threshold; within it their effect is random [Frey and Garbers (1972)]. The proposition that government is 'punished' if economic conditions worsen, but does not benefit if they improve, has so far not been substantiated by empirical evidence [see the effort by Bloom and Price (1975) and the critique by Goodman and Kramer (1975)].

Widely divergent assumptions are also made about how quickly *voters discount the government's performance* in the past: The most extreme is to assume that only the current election year is considered. One study claims that – at least for the United States – this hypothesis is realistic [Fair (1975)]. The analogy to

positive finite discounting of the future is to assume that past events have a geometrically declining weight in the voters' evaluation. Myopia is also present if voters only consider the current election term in their voting decision, even if constant weights are attached to each year.

2.2. Government

Government is taken to be a unit acting rationally. Some models consider government to be fully informed about the voters' reactions and about its chances of influencing the economy while others stress that it typically acts under lack of information. Politico-economic models consider parties as competing on the *vote-market*. Parties and the government seek to maximize votes, plurality or the vote share, either in absolute terms, as an expected number, or as a probability of exceeding a certain number. A related view is that governments maximize their probability of winning the next election.

The classical economic assumption of *utility maximization* (subject to constraints) is in *explicit* terms employed surprisingly little. It is informally used when changing weights of idealistic (or personal goals such as pecuniary gains or power) and of popularity goals over the term of office are assumed [Lindbeck (1976), Breton (1974)].

A more precise formulation identifies the government's utility with 'ideological' goals as stated e.g. in party programs or with long-run goals, and differentiates between *political* constraints (the need to be reelected), *administrative* constraints (mainly brought about by the public bureaucracy) and *economic* constraints (the general structure of the economy, balance of the budget and of international payments) [Frey and Lau (1968), Attali (1972), Frey and Schneider 1975, 1976a,b)].

The party in power is usually taken to have a *time horizon* extending up to the next election. This assumption may be disputed: If a government is confident of winning the next election it would be irrational not to include (at least) the following term into the time horizon. The next legislative period is of no interest (though possibly later ones) only if the government is absolutely sure of losing the forthcoming election.

2.3. Political sector

Formal politico-economic models have so far considered parliamentary democracies, mostly taking the length of the election period as fixed. If it is variable a theory of election fixing is needed [see Frey and Schneider (1976b) for the United Kingdom]. There is, however, an identification problem here because it is no longer clear whether the economy is steered in view of elections, or whether elections are fixed in view of the state of the economy, or both [Lindbeck (1976)].

One class of models assumes that competition between parties is of no relevance (the Marxist approaches), or that they even form a coalition *against* the electorate [Wittmann (1973)]. In general, politico–economic models assume some amount of competition. Government needs to win a sufficient number of votes in order to survive. More intensive political competition is implied if a reciprocal interaction between the parties (or the government and the opposition) is allowed for as in the pathbreaking static party competition model by Downs (1957). Party competition in a dynamic context has so far not been amenable to analysis [an exception is Kramer (1975)].

The best *current* indicator the government has to assess its future election chances is the popularity index. At election time it is the number of *votes* that counts. Under some constitutional arrangements there may, however, be a considerable difference between votes and *seats* in parliament received by the various parties [see Tufte (1973)]. In a political system with more than two parties and no majority party, the number of seats is not decisive in determining the government due to the many *coalition* possibilities which may arise. [For a calculation see Rae (1971)]. The problem of going from votes to the selection of the government has so far not been taken into account by politico–economic models.

2.4. Economic sector

Most politico–economic models are *partial* in the sense that they cover only a specific part of the economy. Most attention has been given to the trade-off between inflation and unemployment (extended Phillips curve). Few models have used a *complete macroeconometric* model of the economy.

3. Representative models

The formal and (partly) empirically tested politico–economic models examined here rest upon the assumptions discussed in the last section – though in many different ways. Table 1 shows six representative models (identified by the name of their authors), arranged according to the assumptions made concerning the arguments in the *voters' utility function* and the *government's objective function.*

Table 2 shows an alternative arrangement of the same six models when the voters' and government's *time horizon* is taken into account. The government's time horizon is prospective, the voters' retrospective. These politico–economic models differ, of course, in other aspects, such as the degree of *information* and the *economic structure* assumed.

It is useful to deal simultaneously with the models of Nordhaus, MacRae and Lindbeck as they all are concerned with *government vote maximization* in the face of an inflation-unemployment trade-off (section 3.1). Fair's model also assumes vote maximization as the government's objective but includes a *complete macro*

Table 1
Assumptions about the voters' and government's utility functions.

		Governments objectives	
		Vote maximization	Utility maximization
Arguments in the voters' utility function	Growth	Fair (1975)	
	Inflation and Unemployment	Nordhaus (1975) MacRae (1977) Lindbeck (1975, 1976)	
	Growth, inflation, and unemployment		Frey and Lau (1968) Frey and Schneider (1975, 1976a,b)

Table 2
Assumptions about the voters' and government's time perspective.

		Government's time horizon	
		Next election	Infinite
Voters' rate of discount of the past (within an election period)	Complete (approx. current election year)	Lindbeck Fair	Frey and Schneider
	Positive, finite	Nordhaus	Frey and Lau
	No discounting	MacRae	

model of the economy (section 3.2). The models by Frey and Lau and Frey and Schneider are again discussed jointly; they also consider a complete model of the economy but explicitly assume that the *government maximizes its utility* (section 3.3).

3.1. Vote maximization with an inflation–unemployment trade-off

A democratic system with a vote (or plurality) maximizing government knowing the voters' preferences over the course of many electoral regimes asymptotically approaches a *steady state equilibrium* on the long-run Phillips curve. Interpreting the aggregate vote function (depending on unemployment

and inflation) as an individualistic social welfare function this democratic equilibrium may be compared with a benevolent dictator's policy representing the social welfare optimum. It may be shown that the two equilibria coincide only if the dictator's rate of time preference is infinite. Provided society does not completely discount the future, the democratic outcome is nonoptimal; there is higher inflation and lower unemployment than is socially desirable according to the social welfare function [Nordhaus (1975)].

This result may be questioned. If a different, but equally plausible assumption is made about the government's utility function different results follow. If, e.g., government is assumed to maximize the length of time which it can expect to remain uninterruptedly in power, the democratic outcome is not necessarily nonoptimal. A purely myopic policy is theoretically not a *general* characteristic of democracies [Frey and Ramser (1976)].

The model may also be used to study *short-run behaviour within* an election period i.e. the *political business cycle* [Nordhaus (1975)]. Voters are assumed to have a decaying memory of the past and are concerned only with the current election period. The following typical cycle results: Immediately after an election victory the government undertakes a deflationary policy by increasing unemployment in order to combat inflation. Over the course of the election period unemployment is continuously reduced and reaches the purely myopic point at election time.

Voters' discounting of the past is not a necessary requirement for the creation of the cycle. Assuming no discounting over the election period it is still optimal for the government to generate a stable political business cycle equal to the election period. At the beginning of the term the economy moves towards a turnpike – which corresponds to the long-run welfare optimum of the voters – and before the election it moves away [MacRae (1977)]. This cycle is produced because a deflationary policy at the beginning of the election period constitutes an investment in the future (the Phillips curve is shifted inwards due to a depression of inflation expectations), and the inflation following after the election date does not hurt the government because its time horizon is confined to the present election period.

The optimal election cycle produced by government is quite similar if it is assumed that the voters are sensitive not to the level but to *changes* in the rate of unemployment. At election time, the optimal point on the Phillips curve would be reached when the trade-off is near to the origin *and* unemployment has been *falling* before the elections. This would be achieved in the area between points A and D, e.g. at E in fig. 2.

A significant increase in inflation (shift of the trade-off from A to B) takes place only after the election has taken place. Immediately following the election a restrictive policy is pursued until about one year before the election. This increases unemployment (movement from B to C) and shifts the Phillips curve inwards (from C to D) [Lindbeck (1975, 1976)].

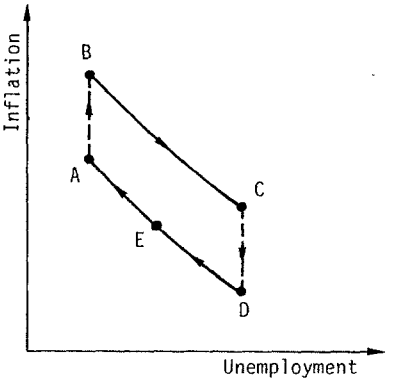

Fig. 2.

3.2. *Vote maximization in a complete macroeconomic model*

American presidential administrations are assumed [Fair (1975)] to have a time horizon extending up to the next election and to act within the framework given by a medium-sized quarterly macroeconometric model. The instruments available to the president are the value of goods purchased by the government (in real terms) and the value of government securities outstanding (in current dollar terms). The government's goal simply consists of bringing about the maximum real growth rate of the economy in the election year because according to Fair's own econometric estimate American voters are myopic and interested in the real growth rate of per capita GNP, only.

Assuming complete knowledge of the economic structure, the optimal policy consists of bringing about a trough 6 to 8 quarters before the elections, i.e. in the first three quarters of the preelection year. The most restrictive use of the fiscal policy instrument is one quarter earlier. This politically induced cycle enables an increase in the real growth rate of national income of about 20% in the election year.

This election year induced real growth rate seems unbelievably high. The actual growth rate has indeed been much lower. American presidents have, therefore, missed the target derived in the model by far. The following explanations are offered [Fair (1975), p. 29]: The president may be restricted in his vote-maximizing policies by Congress and the Federal Reserve; the government may think that voters judge its performance by additional (or other) criteria; or the government may pursue nonvote maximizing goals.

Even if the question is left aside of what economic variables influence the electorate's choice (Fair's estimate is in conflict with the other studies mentioned above), these explanations are ad hoc, only. The main shortcoming of this approach is that an explicit model of politico-economic interdependence covering all the decision-makers he deems relevant is missing.

3.3. Government utility maximization in a complete macro-economic context

Government may be assumed to maximize its utility by pursuing economic policies in accordance with its ideological views concerning the desirable state of the economy, e.g., the relative weight to be accorded to efficiency compared to equity. When voters evaluate the government's performance with geometrically declining weights towards the past, depending on the structure of the economy, it may be impossible to meet the reelection constraint. If, however, a feasible policy exists, it is optimal to create a *political business cycle* by pursuing an ideological policy at the beginning of the election period and to progressively adjust its actions so as to guarantee reelection [Frey and Lau (1968)]. Such a policy presumes full information on the part of government. More realistically, government is incompletely informed about the exact structure of economy, particularly when and how its policy instruments affect the economic variables entering the voters' utility function. As its existence depends on staying in power, government politicians devote most of their attention to meeting the reelection constraint. Its policy will, however, also be influenced by legal constraints and by the public bureaucracy's interest in continually expanding public outlays [see Davis, Dempster, Wildavsky (1966)] (administrative constraint) and by the limits set by the budget and the balance of payments (economic constraints).

A satisficing policy may proceed in the following way: If the government's current popularity (POP) is lower than the value considered necessary for reelection (POP^*), it will make an effort to increase its popularity with the voters. This will be the stronger, the larger the popularity deficit and the nearer the elections are because there is less and less time available to raise popularity sufficiently to be reelected. If its popularity is so high that reelection seems likely, government pursues an ideological policy: With respect to the budget, a right-wing party may be expected to reduce expenditures and a left-wing party to increase them, compared with the trend. (A simulation model comparing the effect of various government ideologies is provided in Frey (1977).) The model specifies the two interacting links between the economy and the polity shown in fig. 1 of the introductory section in the following way:

(a) The *evaluation function* measures the negative influence of the rates of unemployment and of inflation, and the positive influence of the growth rate of disposable real income (or consumption) on *government popularity*. Popularity also depends on political factors which are captured by a popularity level (specific to each government or party) and an autonomous depreciation variable, capturing noneconomic popularity losses (e.g. due to internal scandals and wars).

(b) The *policy function* describes the use of economic policy instruments (especially *public expenditures*) by a utility maximizing government. When there is a popularity 'surplus' $POP_t \geqq POP^*$ (indicated by a dummy variable

S being equal to one) government is free to pursue its ideology ID. ID depends on the dummy variable R (respectively L) taking the value 1 if a right-wing (respectively a left-wing) party is in power, otherwise it is zero, multiplied by squared popularity surplus $(POP_t - POP^*)^2$ to indicate the room available to act ideologically.

ID is thus defined as:

$$ID_t = [\beta_R \cdot R + \beta_L \cdot L](POP_t - POP^*)^2,$$

where β_R and β_L are parameters. According to a priori expectations right-wing governments have the tendency to spend less, and left-wing governments to spend more, when they are free to act ideologically ($\beta_R < 0$, $\beta_L > 0$).

The government's need to raise its popularity 'deficit' $POP_t < POP^*$ (indicated by $S = 0$) is reflected by the size of the squared deficit $(POP_t - POP^*)^2$ and by a variable TP giving the time passed since the last election, showing how much time the government has available to lift its popularity. In case of a popularity deficit, government is assumed to undertake an expansionary policy.

The administrative constraint is taken into account by introducing the lagged instrument use.

The policy equation reads in linear form

$$INSTR^i_{t+1} = a_0 + a_1 INSTR^i_t + [a_2 \cdot ID]S + [a_3(POP_t - POP^*)^2 + a_4 TP] \cdot (1 - S) + \begin{matrix}\text{various economic constraints} \\ \text{and cost factors.}\end{matrix}$$

$INSTR^i$ refers to various government policy instruments ($i = 1, 2, \ldots$) available, particularly public expenditure.

The popularity and policy functions have been *econometrically tested* with quarterly data for the United States, the United Kingdom and Germany over the postwar period [Frey and Schneider (1975, 1976a,b)]. Each model has, of course, been adapted to the special economic and political system of each of these countries, e.g., that the balance of payments constraint is of little significance in the United States and Germany, but of great importance in the United Kingdom. For that reason, only those parameters of the regression estimates of the popularity and policy functions are presented here which are of prime interest for politico–economic cycles and which are (up to a point) amenable to inter-country comparisons.

Table 3 presents the estimated coefficients of the government's *popularity function.*

Table 3 suggests that economic variables do influence government popularity.

Table 3
Government popularity functions for three countries, quarterly estimates.[a]

Country	Period	Economic variables			Political variables	Test statistics		
		Rate of unemployment (%)	Rate of inflation (%)	Growth of real disposable income (%)	Popularity level and depreciation	Degrees of freedom (d.f.)	$\bar{R}^2$	Durbin–Watson coeff. (D.W.)
United States	1953: II–1975: II	−4.03 (−5.23)	−1.00 (−1.99)	0.52 (1.69)	Specific to each president	78	0.91	1.99
United Kingdom	1959: IV–1974: IV	−6.01 (−3.89)	−0.61 (2.65)	0.81 (2.88)	Specific to Labour and Conservative government	54	0.69	1.71
Federal Republic of Germany	1951:I–1975: III	−0.91 (−3.47)	−0.71 (−3.09)	0.43 (1.63)	Level: specific to each government coalition	96	0.96	1.91

[a]In the case of the U.K. the dependent variable is the government popularity lead relative to the main opposition party. For the U.S. the rate of inflation is lagged by one quarter. For Germany the economic variables are measured as deviations from their value at the beginning of each election term. The figures in parentheses are *t*-values. *Source:* Based on Frey and Schneider (1975, 1976a,b). The values for Germany have been reestimated using quarterly observations.

While the rate of unemployment and inflation have a statistically (highly) significant effect, the influence of the growth of real disposable income is less well founded in the case of the U.S. and Germany.[1] The coefficients for the United States and the United Kingdom are of comparable magnitude; the British seem to politically resent unemployment somewhat more and inflation somewhat less than the Americans. The Germans appear to 'punish' the government little when unemployment rises. They are – relative to other goals – more strongly opposed to inflation than both the British and the Americans. The growth of real disposable income has a positive effect of similar size on government popularity in all three countries.

The empirical estimates of the popularity functions indicate that a government which aims at increasing its popularity does well to pursue in the short run an *expansionary* policy which lowers unemployment and raises the growth of disposable income. Only a very rapid and immediate increase in the rate of inflation would prevent an increase in the government's popularity share. The governments of the three countries considered are aware of this possibility: According to the empirical estimates shown in table 4 governments increase public expenditures, i.e. pursue an expansionary policy,[2] if they have a popularity deficit.

Table 4 presents a selection of estimated coefficients of the *policy function* for the case of *exhaustive expenditures* (for transfer expenditures the results are similar). The parameters are (with two exceptions) statistically significant for all countries and in each case have the theoretically expected sign. The past level of expenditure has a large effect on its present level ($\hat{a}_1 > 0$), reflecting administrative constraints. The estimates support the hypothesis that a government pursues the more vigorously an expansionary policy the larger its popularity deficit ($\hat{a}_3 > 0$). They indicate that left-wing parties tend to spend significantly *more* than right-wing parties, i.e. that governments pursue ideological policies when they are confident of staying in power ($\hat{b}_R < \hat{b}_L$).

There is clear evidence for a *politico-economic cycle* in all countries: Exhaustive expenditures are increased before each election the government is not confident of winning (the coefficient a_4 referring to the time passed since the last election is highly significantly positive). There is thus, ceteris paribus, a tendency to embark on an expansionary policy before elections in order to increase popularity and election chances.

The good results of the econometric estimates of the popularity and policy functions for three different countries suggest that the model captures certain features of the underlying structure of politico-economic interdependence in

[1] This is partly due to multicollinearity between the economic variables. It has been tested for both countries that the growth of income coefficient is statistically significant if one of the correlated independent variables is in turn omitted. The relative size and significance of the other coefficients remain essentially unaffected.

[2] It has been checked that this policy on the expenditure side is not counteracted by actions on the tax side.

Table 4

Policy functions for three countries, quarterly estimates.[a]

Country	Period	Government policy instrument (dependent variable, $t+1$)		Lagged dependent variable	Popularity surplus ($S=1$)		Popularity deficit ($S=0$)		Economic constraints	Test statistics		
					Ideology							
					right-wing	Left-wing	Size of deficit (squared)	time passed since election		d.f.	$\bar{R}^2$	D.W.
			a_0	a_1	b_R	b_L	a_3	a_4				
United States	1953: II–1975: II	Civilian exhaustive expenditures	−0.45	0.64) (9.23)	specific to each president		0.002 (2.49)	0.37 (3.39)	Budget	82	0.99	1.61
United Kingdom	1962: II–1974: IV	Consumption expenditures	−0.63	0.38 (2.08)	−0.003 (−1.43)	0.008 (2.17)	0.007 (2.10)	0.004 (2.21)	Budget, balance of payments, cost factors	42	0.99	1.73
		Investment expenditures	0.53	0.32 (2.14)	0.004 (−1.74)	0.006 (2.03)	0.006 (2.29)	0.003 (2.14)		42	0.97	2.12
F.R. of Germany	1951: II–1975: IV	Exhaustive expenditures	−0.84	1.012 (27.68)	−0.012 (−2.91)	0.145 (2.79)	0.003 (3.49)	0.339 (2.94)	Budget, cost factors	86	0.99	1.74

[a] *POP** is taken to be 58% for the U.S. and 52% for Germany. For the U.K., popularity is substituted by government lead and the respective surplus and deficit is based on a *LEAD** of −5% and is not squared. The right-wing parties are the Conservatives (U.K.) and the Christian Democratic Party (alone or in coalition with non-socialist parties, F.R.G.); the left-wing parties are Labour (U.K.) and the Social Democratic Party (in coalition with the Free Democratic Party, F.R.G.), respectively. For the U.S., 'ideologies' are identified with presidential administrations (for reasons of space the coefficients are not reproduced here). For a precise definition of variables and specifications see the sources given in table 3.

industrialized democratic nations reasonably well. It must be stressed, however, that these models are highly simplified and that many important aspects are not considered.

4. Other types of models

The representative models discussed in the previous section have used different combinations of the building blocks presented in section 2. The models sketched in this section stress other aspects of politico–economic interaction by extending the building blocks in various directions. The two general aspects treated are new views of the *economic system* and of the *political system.* The models are (so far) informal, they are discussed here because they open promising new avenues for future research.

4.1. Other views of the economic system

The relationship between *public goods* and *information* stands in the centre of Downs' (1972) approach. In modern societies social problems are taken to go through a cycle of public attention which is strongly influenced by the communications media. The duration of the cycle is variable but the sequence is given: (1) At the *pre-problem stage* highly undesirable social conditions exist but have not yet captured wide-spread public attention; (2) Usually due to some dramatic incidence, there is *alarmed discovery* of the problem and a euphoric *enthusiasm* about the possibilities for solution with no fundamental reordering of society; (3) The *high costs* of *significant progress* are realized; particularly that major sacrifices by large groups would be required; (4) The *intense public interest gradually declines*, partly because of cost, partly because the public becomes bored and the competing media turn to new issues. The average level of attention and public effort is, however, almost always higher after a social concern has gone through the cycle, mostly because of their institutionalization.

The relationship between the economy and polity takes quite a different form when a *planned* rather than a market *economy* is considered. In a collectivist economy, the planning authority has by necessity a lower time preference than consumers. The official plans stressing capital investment conflict with the population's desire for increases in or even maintaining the level of consumption goods. Social dissatisfaction arises and pressures are put on the planners to change allocation criteria. With the progressive economic and political difficulties, planners are forced to raise the output of consumption goods which removes the tensions. After some time the planning authorities' preferences regain control leading to a shift to investment and starting a new cycle [Oliveira (1960)]. Generalizing, all the oscillation of economic activity in European socialist countries may be attributed to the conflict between the overambitious central plans and the ability to carry it out successfully [Bajt (1971)]. Communist China's cyclical fluctuations are also seen as the result of a vicious circle where

economic progress leads to extreme stress in (Maoist) ideology, which in turn leads to economic crises, followed by a relaxation of ideology [Eckstein (1968)].

4.2. *Other views of the political system*

According to the *Marxist* view, business cycles serve the interest of the capitalist class. Periodic recessions are essential to the maintenance of capitalist political and social control. The class *instinct* of the business community tells them that a regime of *continuous* full employment is contrary to their interest: The 'sack' loses its role as a disciplinary measure and strikes for wage increases create political tensions. Business leaders are anxious to teach workers a lesson though they know that a recession means a cut in profits. They form a powerful coalition with the rentiers who as fixed nominal income receivers are harmed by the inflation accompanying the boom. The government is forced to create a recession. The concomitant fall in profits (and inflation) after some time leads the business community to demand an expansionary policy. The government obeys and reestablishes full-employment [Kalecki (1943), for some empirical evidence see Feiwel (1974)].

According to another Marxist view there is no conflict between the political and economic dimensions of class conflict in the state of full employment. The share of profit typically *falls* during the second half of an expansion. Capitalists need not rely on 'class instinct' to realize that sustained full employment is unsound. A recession is a necessary condition for the first highly profitable phase of expansion, and puts an end to the unprofitable latter phase of the boom. A constant 'reserve army' of unemployment is not sufficient to reestablish control over the workers. Those still employed feel threatened only when the rate of unemployment *increases*, which requires a policy of intermittent recessions. The government is completely subservient to capitalists' wishes: Its objective is to maximize corporate profits [Boddy and Crotty (1975)].

The thinking of Marx – it may be claimed – manifests itself in post-Keynesian capitalism in a new way; it affects the choice of politico-economic regimes [Kolm (1970)]. In the period after the Second World War the dynamics of the Phillips curve in the United States has resulted in a clockwise movement in the inflation–unemployment plan. The governments cannot for political reasons tolerate high unemployment. They intervene quickly as soon as unemployment is sizeably increasing which leads to an inflation–unemployment *spiral* with a continually higher average level of inflation. In the median-run there are only two possible steady state solutions to this disequilibrium process: Either the government introduces rigid price and wage controls and the public sector takes the leading role in the economy which is a regime of socialism within a nation ('*socialisme national*'); or pre-Keynesian unemployment is reestablished against the opposition of trade-unions and workers which is a regime of authoritarian '*national socialisme*'.

5. Concluding remarks

Discussion of the various politico-economic models has shown that there is a wide variety of possible approaches, and that in fact only some directions have so far been explored. Not surprisingly, the *formalized models* have taken the most narrow points of view. Nevertheless, they are able to give interesting insights into the interdependence between the economy and polity. Theorizing has (in contrast to some other areas of Public Choice) fortunately not remained purely abstract, rather, some approaches have devoted great attention to empirical testing.

It is easy to think of some of the directions in which the formalized models could be expanded in order to make them more realistic. Some suggestions are provided by the *nonformalized models* discussed in the preceding section. More institutions relevant for politico-economic interaction can be introduced, such as the central bank, public enterprises, interest groups, and trade unions. As a further step, an effort should be made to include areas of government activity not directly showing in the budget, such as the whole area of law making and (economic) regulations.

Politico-economic models have made an especially noteworthy contribution to the problem of *political business cycles* in providing a theoretical basis for this phenomenon.[3] Traditional business cycle literature (including textbooks) has completely disregarded this aspect and the theory of stabilization policy has assumed as a matter of course that the government should, and does, stabilize the economy. The *capacity* to do so has recently been questioned by Monetarists [see e.g. Brunner (1970)], but politico-economic modelling provides a rationale for believing that governments are not only *unwilling* to stabilize the economy, but that they have *an interest* in *creating* (some types of) cycles. This throws up basic questions for the theory of economic policy (and beyond that for democratic theory) not to be considered here.

Some authors [Goodhart and Bhansali (1970), Nordhaus (1975), Lindbeck (1975), MacRae (1972)] offer suggestions of what should be done against political business cycles: The electoral periods should be lengthened; economic policy should be taken out of the hands of politicians and given to nonpartisan institutions; the base of political participation should be broadened in the direction of indicative planning; economists and citizens should show a more critical view towards inflation, or the electorate should vote strategically by communicating a preference for deflation to government and a higher value of this goal (compared to other goals) in the election year. These suggestions do, however, not take sufficient account of the fact that the approach here discussed purports to construct closed models of both the economic and political systems.

[3]For mainly empirical observations see e.g. Åkerman (1947), Averch, Koehler and Denton (1971), Tufte (1974), Ben-Porath (1975).

Most of the suggestions offered come from outside the politico–economic systems pictured, and thus belong to the realm of 'constitutional' decisions. They would not emerge from within the politico–economic system itself. Some of the suggestions are, however, undemocratic, unrealistic or do not seem to be politically feasible. An acceptable possibility of overcoming political business cycles is *social learning:* The voters must start realizing that the government produces cycles in order to improve its reelection chances. Such a learning process leads the electorate to punish governments behaving in this way. Once voters completely understand the relationship implied (rational expectations) the political business cycle breaks down.

Research on politico–economic interaction is in its infancy. The formalized models used to date must be characterized as *additive-interdependent:* A 'pure' economic sector is amended to a 'pure' political sector and the links of interdependence are studied. In reality, there are no such 'pure' sectors; future research must endeavour to construct models in which the economic and the political sectors pervade and transform each other.

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